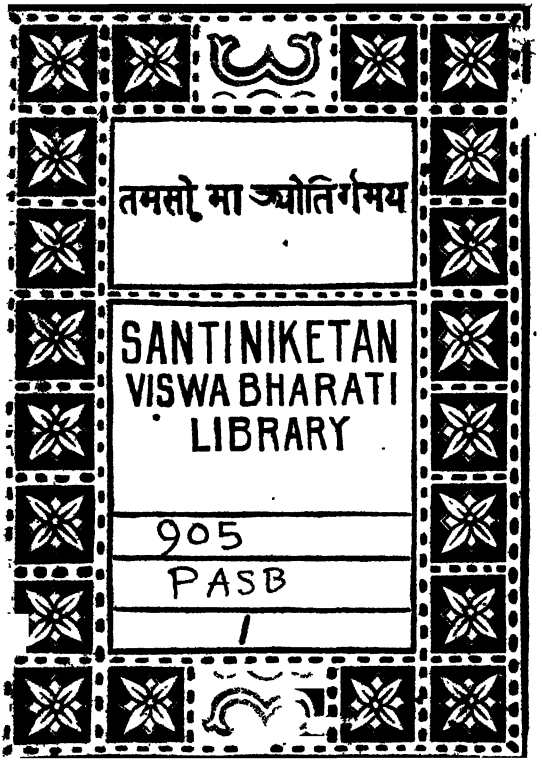

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PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR JANUARY, 1865.

The Annual General Meeting of the Asiatic Society was held on the 11th January, 1865.

E. C. Bayley, Esq., President, in the chair.

The Secretary read the following Report for 1864.

ANNUAL REPORT.

In presenting the usual report for the year just ended, the Council have again the satisfaction of congratulating the Society on its continued prosperity, as indicated both by the accession of new members, and the number and value of its publications.

His Excellency the Right Hon'ble Sir John L. M. Lawrence has been pleased to accept the patronship of the Society, left vacant, at the close of the previous year, by the decease of the Right Hon'ble the Earl of Elgin and Kincardine.

Fifty-three Ordinary members have been elected during the past year, but the losses by death and retirement have been unusually numerous, viz. 7 of the former and 21 of the latter, so that the net increase is 25, making a total on the 31st December of 380 members against 355 of the preceding year. Among the losses by death, the Council regret to record that of a member of their own body, Mr. H. Scott Smith, Registrar of the Calcutta University, whose sudden and most unexpected death in May last, shortly after his election to the Council of the Society, is remembered with the deepest regret by all who were in any way associated with him. The death of Major J. L. Sherwill while on his way to Europe, has deprived the Society of a member, who, on two occasions, contributed valuable papers to the Society's Journal.

The Obituary further enumerates Col. A. D. Turnbull, R. E. late Superintendent of the Ganges Canal; Prince Jalaluddin Mohammad, Huzrat Shah Kabeeruddin Ahmed, L. F. Byrne, Esq., and R. H. Russell, Esq., B. C. S.

The present condition of the member list, as compared with that of previous years, is shewn in the following table, which exhibits the numbers of paying and absent members for the last 10 years.

	Paying.	Absent.	Total.
1855, ...	128	34	162
1856, ...	131	36	167
1857, ...	109	38	147
1858, ...	193	40	233
1859, ...	135	45	180
1860, ...	195	47	242
1861, ...	226	55	281
1862, ...	229	82	311
1863, ...	276	79	355
1864, ...	*288	92	380

During the year 1863, this Society had to congratulate itself, on the formation at Lahore, of an Auxiliary Committee, working in conjunction with this Society and with similar aims, while it enjoyed all the advantages of an independent Society. In the name chosen by it, as well as in its correspondence with this Society, the Lahore Committee expressed its desire to ally itself so far as was compatible with its independent character, with the Asiatic Society of Bengal; and its propositions were cordially received by this Society, in the hope that in other distant provinces, bodies of a similar character might be formed, with the view of undertaking the investigation and discussion of local subjects of Antiquarian and Scientific interest, and thus aiding in the accomplishment of that which has for 80 years been the object of this the parent Society. It is a most encouraging sign of the increased attention given in this country to History and Science, that during the past year, a Society has been formed at Nagpur, on a footing, as regards this Society, similar to that of the Lahore Auxiliary Committee; and the Council are sure that the members of this Society will feel equal satisfaction with themselves, in learning that the Association thus established, notwithstanding the lamented loss of one of its most energetic

* Resident, 140. Non-Resident, 148.

members, the late Rev. S. Hislop, at the outset of its career, is in such a condition as to warrant the most hopeful anticipation of its prosperity.

Finance.

The contributions of members in entrance fees and Subscriptions during the past year, have amounted to Rs. 9989-10, which is rather more than Rs, 1,000 in excess of those of the previous year. Of this total, Rs. 1,600 were received on account of entrance fees, and Rs. 8,389-10 on account of Quarterly Subscriptions. As will be seen by the following table, the receipts for the past year are much in excess of those for any year of the previous decade.

1854,	...	...	7,082	0	0
1855,	...	...	7,166	0	0
1856,	...	...	8,096	0	0
1857,	...	...	7,068	0	0
1858,	...	...	6,923	0	0
1859,	...	...	6,750	0	0
1860,	...	...	6,441	0	0
1861,	...	...	6,812	0	0
1862,	...	...	7,222	0	0
1863,	...	...	8,930	2	9

The accounts for the last year have been prepared and referred to the Auditors, and on being passed by them, will be laid before a subsequent meeting of the Society.

The following is the estimated income and expenditure of the Society for 1865.

Income.

Subscriptions,	...	...	8,500
Admission Fees,	...	...	1,600
Journal, ...	...	...	600
Library, ...	...	...	300
Museum, ...	...	...	1,500
Secretary's Office,	...	...	20
Coin Fund,	...	...	30
			12,550

Expenses.

Journal, ...	3,500
Library, ...	2,500
Museum, ...	1,500
Secretary's Office, ...	2,350
Building, ...	1,800
Coin Fund, ...	250
Miscellaneous, ...	400
	12,300

The receipt of the Government allowance for the Museum and the expenditure thereon, are estimated for three months only, as the transfer of the Society's collections to Government, already sanctioned by the Society, will probably be effected in the early part of the present year.

LIBRARY.

During the past year, all purchased additions to the Library with the exception of periodicals and serials in continuation of those previously subscribed for, have been made under the direction of the Library and Phil. Committees, 500 Volumes and periodicals have been added, the majority of these being presentations from learned Societies and authors. No new large and expensive works have been added to the Library, and the majority of the works purchased have been either of Philological or Antiquarian interest. The Library Committee are, however, now engaged on the consideration of the wants of the Natural History Department, and it is hoped that some of the more striking deficiencies in this department may be supplied during the present year.

The Society's Photographic Album has received two important series of contributions, from Capt. Melville and Mr. Mulheran; the Council have also taken steps to procure by purchase a selection of photographs representing the destruction caused by the Great Cyclone.

The rooms devoted to the library are now barely sufficient to afford the required accommodation; and new and classified catalogues and a reclassification and arrangement of the Library are much required, in order that the latter may be placed on such a footing as to be readily available to members. These latter necessaries will receive the immediate consideration of the Council, but as their practical execution will involve an amount of labour which no honorary officer of the Society

can be expected to devote to it, it will be necessary to engage specially, some person qualified for the duty. With regard to the provision of additional accommodation, the Council consider that when the Library shall have been classified, temporary arrangements may be made for the preservation of the Books, pending the removal of the Library to the more ample space to be provided for it in the new Imperial Museum.

Coin Fund.

The numismatic collection has received several valuable accessions during the period under review, the most important being a trove of silver coins of the early Pathans lately found in Cooch Behar. It includes a few novelties, and several dated coins, which serve to fix the reigns of some of the Pathan Sovereigns of Bengal, and to correct written history. Four gold Guptas, some Bactrians, and a set of Nárâyanis have been purchased, and presentations have been received from Capt. F. W. Stubbs and J. Beames, Esq.

Museum.

Many valuable additions have been made to the Museum during the past year, more especially to the collections of Vertebrata. Among the most noteworthy presentations in the Natural History Department are a fine specimen of a tiger from the Barrackpore Menagerie, a large Crocodile from Messrs. Sturmer and Farr (which has been prepared as a skeleton, the specimen previously existing in the skeleton collection having been young and imperfect,) a series of the birds of Bhotan from the Hon'ble A. Eden, and a fine skull of a fossil Labyrinthodont from the lower Damoodah rocks of Central India, presented by the Government of India. To Baboo Rajendra Mullick the Society is indebted for a large number of birds and Mammalia, and numerous presentations have also been received from Col. Tytler, Lieut. Beavan, Mr. Carlyle and other gentlemen. The majority of these have been prepared for the Museum.

The Society have also obtained, through the kindness of their late Curator, Mr. Blyth, partly by purchase and partly by exchange, a series of very beautifully executed casts of Gorilla skulls, and a series of horns; also a preserved specimen of a young Chimpanzee.

Some additions have also been made to the collection of meteorites by exchange with Professor Shepard.

In the department of antiquities and curiosities, the chief additions are a series of carved wooden slabs from the Kaiser Bagh presented by Col. Tytler.

Two new standard cases have been provided for the Quadrumana and stuffed Mammalia, and the bird-cases have been rendered more secure with a view to the preservation of the specimens from the attacks of rats, from which a few specimens had suffered. The attention of the Museum Officers has for some months past been given almost exclusively to the preservation of the collections, and in accordance with this course, the Council have directed that all additions to the bird collections henceforth, be prepared for storage in air-tight cases, instead of being mounted. They will thus require less room and be easily preserved, while they will be equally available to those who may wish to examine them, with the mounted specimens.

The conclusion of the negociations for the transfer of the Society's Museum to Government, was reported to the Society at the December meeting, and the execution of the transfer has only been deferred, pending the appointment of a Curator. The Council expect that in course of one or two months, they will be enabled to make over the charge of the Museum to the Board of Trustees to be appointed by the Government and the Society jointly, in accordance with the terms of the correspondence, which has already been placed in the hands of the members.

The Government has already given instructions for the preparation of plans and designs for the new Museum, and it is hoped that the building will be commenced in the course of the present year.

The number of visitors to the Museum during the past year is as follows.

Europeans.

Males, ...	2,269
Females, ...	1,147

Natives.

Males, ...	94,224
Females, ...	7,000

making a total of 104,640; a daily average of 358, excluding Sundays and holidays, and three weeks during which the Museum was closed for repairs.

Officers.

The Museum was in the charge of Baboo Poorno Chunder Bysack, the Sub-Curator, during the first six months of the year, and in that of Mr. Carlyle, who was appointed officiating Curator as a temporary measure, during the latter half of the year. The resignation of the latter gentleman on the 31st December has been accepted by the Council, and the Museum will remain in the charge of the sub-Curator, during the short interval which may be expected to elapse before the arrival of the Government Curator.

Baboo Lalgopal Dutt has continued to discharge the duties of Librarian and Assistant Secretary, (with the exception of two months during which he was on leave,) until within the last few weeks, and entirely to the satisfaction of the Council. He has now again been granted leave for a period of two months, during which Baboo Kristodhone Dutt has been appointed to officiate for him.

Journal.

Five numbers of the Journal for the past year have already been issued to the members, including a Supplementary number, and a sixth is well advanced towards completion. It is proposed to issue six numbers also for the ensuing year, should the funds of the Society permit. Certain changes will be adopted in the issue of the Journal in future. The proceedings of the Society will be paged separately from the contributed papers, and issued monthly to all members, instead of deferring the publication, as at present, till an entire number of the Journal is completed.

It is proposed also to classify the papers, in accordance with the system adopted by certain Scientific and Literary bodies in Europe, as Literary, Philological, Historical and Numismatic on the one hand, and of Natural and Physical Science on the other. It is believed that this classification will render the Journal more convenient than at present, for those whose interest lies mainly with one or other of these classes of subjects, and that by thus investing each part of the Journal with a special character, it will become better known and more widely diffused among European subscribers.

Bibliotheca Indica.

The Council notice with much satisfaction the continued activity which has prevailed during the past year in the different branches of

the Bibliotheca Indica. Twenty-two numbers have appeared of the New Series and five of the Old.

In Sanskrit, five new works have been undertaken. Dr. H. Kern of Benares has brought out 5 Nos. of the Brihat Sanhitá of Varáha-Mihira, an astronomical work of great value, which will form a fit supplement to the Surya Siddhánta, which was published in the Series two years ago.

The Professor of Nyáya in the Sanskrita College of Calcutta, Pandita Jayanáráyaṇa Tarkapanchánana, is engaged in carrying through the press the Aphorisms of Gotama, with a rare commentary by Vátsáyana, and Pandita Rámanáráyaṇa Vidyáratna is occupied in superintending the printing of the Srauta Sutra of A'swaláyana, with the commentary of Gárgya Náráyana.

Pandita Nabadvípa Chandra Goswami has published the first Fasciculus of the Sankara Vijaya or the polemical disputations of Sankara A'chárya as recorded by A'nanda Giri. It is an interesting work, and affords a very succinct account of the different religious sects which prevailed in India a thousand years ago. A fasciculus has also been published of the A'ranyaka of the Black Yajur Veda. The work is to form the fourth or the concluding volume of Bábu Rájendralála Mitra's Taittiríya Bráhmana.

The series of Mohammadan historians is making satisfactory progress under the able superintendence of Capt. Lees. The Tabkat-i-Nasiri, which was undertaken in 1863, has been brought to a conclusion, and five numbers have been issued of the Muntakhab al Tawáríkh of Abd al Qádir bin i Maluk Shah al-Badaoni. Capt. Lees has also completed an edition of the Wis-o Rámin, an ancient Persian poem of great merit.

In the Old Series, Baboo Rájendralála Mitra has issued the 19th Fasc. of the Taittiríya Bráhmana of the Black Yajur Veda, and the 3rd of the Kámandakíya Níti Sára, and Capt. Lees has published three Fasciculi of the Biographical Dictionary of persons who knew Mohammad.

The following are the titles of the different fasciculi published.

OF THE NEW SERIES.

1. Sankara Vijaya of Anantánanda Giri, edited by Pandita Nabadvipa Chandra Goswami, No. 46, Fasc. I.

2. The Brihat Sanhitá of Varáha-Mihira, edited by Dr. H. Kern, Nos. 51, 54, 59, 63, Fasc. I. II. III. IV.

3. The Srauta Sútra of A'svaláyana, with the commentary of Gárgya Náráyaṇa, edited by Pandita Ráma Náráyaṇa Vidyáratna, Nos. 55, 61, 66, Fasc. I. II. III.

4. The Nyáya Dars'ana of Gotama with the commentary of Vátsyáyana, edited by Pandita Jayanáráyaṇa Tarkapanchánana, Nos. 56, 67, Fasc. I. II.

5. The Taittiríya A'ranyaka of the Black Yajur Veda with the commentary of Sáyanáchárya, edited by Báboo Rájendralála Mitra, No. 60, Fasc. I.

6. The Tabaqát-i Násiri of Aboo Omar Minháj Al-din Othmán, Ibn Siráj al-din al-Jawzjani, edited by Capt. W. N. Lees, LL. D. and Mawlavis Khadim Hosain and Abd al-Hai, Nos. 47, 50, Fasc. IV. V.

7. Wis O Rámin, an ancient Persian Poem by Fakr al-din, Asad al-Astarabadi al-Fakhri, al-Gurgani, edited by Capt. W. N. Lees, LL. D. and Munshi Ahmad Ali, Nos. 48, 49, 52, 53, Fasc. I. II. III. IV.

8. The Muntakhab al-Tawáríkh of Abd al-Qádir Bin i Maluk Shah al-Badáoni, edited by Capt. W. N. Lees, LL. D. and Mawlavi Kabir al-din Ahmad, and Munshi Ahmad Ali, Nos. 57, 58, 62, 64, 65, Fasc. I. II. III. IV. V.

Of the Old Series.

1. The Taittiríya Bráhmana of the Black Yajur Veda with the commentary of Sáyanáchárya, edited by Báboo Rájendralála Mitra, No. 204, Fasc. XIX.

2. Kámandakíya Nítisára, with extracts from the commentary entitled Upádhyáyanirapeksha, No. 206, Fasc. III.

3. A Biographical Dictionary of persons who knew Mohammad by Ibn Hajar, edited in Arabic by Mawlavies 'Abd-al-Haqq and Gholám Qádir and Capt. W. N. Lees, Nos. 205, 207, 208, Fasc. I. II. III. of Vol. IV.

The Report having been read, it was moved by the President, and seconded by Col. Thuillier, that the Report just read be approved. This motion being put to the meeting was unanimously agreed to.

The meeting then proceeded to elect the Council and officers for the ensuing year.

It was proposed by Mr. H. F. Blanford, seconded by Mr. Heeley and resolved,—that Mr. J. O'B. Saunders and Col. Strachey be appointed Scrutineers of the ballot.

At the close of the ballot, the President announced on the report of the Scrutineers, that the following gentlemen had been elected to serve on the Council for the ensuing year :—

COUNCIL.

A. Grote, Esq., *President.*
Capt. W. Nassau Lees.
W. S. Atkinson, Esq.
Bábu Rájendralála Mitra. } *Vice-Presidents.*
Dr. T. Anderson.
Dr. J. Fayrer.
Dr. S. B. Partridge.
J. Obbard, Esq.
Lieut.-Col. J. E. Gastrell.
Capt. H. Hyde.
Bábu Jádava Krishna Sing.
J. Geoghegan, Esq.
Col. H. L. Thuillier.
H. F. Blanford, Esq. } *Secretaries.*
W. L. Heeley, Esq. }

The President on leaving the chair, expressed his regret that his long absence from Calcutta had prevented his taking so active a part in the business of the Society during the past year as he could have wished, and expressed his indebtedness to Mr. Grote for performing many of those duties which he should himself have performed, but for his unavoidable absence. No one had done so much for the Society as Mr. Grote, and in that gentleman's election as his successor in the Presidential chair, he felt the best assurance that the Society would flourish.

The Report showed that the Society had never been so flourishing as at the present moment. The receipts had never before been so great; and the papers and material received by the Society had never been so numerous. For the first time, the Society was suffering under a plethora of material, and the great difficulty was to find men with time to devote to the work of the Society. He hoped therefore

that the members would be active, and that the Society would continue to occupy its present prominent position. He trusted also that the new arrangements with Government will give the Society increased means of usefulness. With these brief remarks he took his leave of the Society as the occupant of the Presidential chair, which he had great pleasure in vacating to so able a successor.

Mr. Bayley then left the chair, which was taken by Mr. Grote, the President elect.

Mr. Grote, on taking the chair, briefly acknowledged the honour done to him by the Society in re-electing him for another year as their President. No one could have regretted more than he had done, the circumstances which had prevented their last two distinguished Presidents from remaining in Calcutta, and thus from doing full justice to the post for which they were both so eminently qualified: of one thing he felt quite sure, namely, that the course on which the Society had now entered, of changing its office-bearers yearly, was working well for its interests, and it would be hoped be persevered in. It was a subject of congratulation that the old practice of electing a President and of then leaving him as a fixture, had been abandoned.

The meeting then resolved itself into an ordinary monthly meeting.

The minutes of the previous meeting were read and confirmed.

The following presentations were announced.

1. From T. Smith, Esq., a part of the mainsail of the Pilot brig "Chinsurah" blown into an extraordinary knot in the Cyclone of the 4th and 5th October, 1864.

2. From Dr. Sconce, several skins of birds and mammals (from Assam ?).

3. From A. Grote, Esq., a specimen of a gold-finch from Cabul; also specimens of minerals from the Kashmir territory.

4. From Mr. Simpson, a skin of a peacock, supposed to be a new local variety.

5. From Baboo Rajendra Mullick, a Bara Singha deer (*Rucervus Duvaucelii*).

6. From Syud Ahmad Khan, a copy of Tuzak-i-Jehangiri, edited by himself.

7. From the Assistant Secretary to the Government of India, one copy of the 1st, 2nd, 3rd, 4th and 5th volumes of a collection of Treaties, &c. relating to India.

8. From Capt. E. Smyth, Almorah, through Baboo Rajendra Mullick, a Yak *(Poephagus grunniens)* and a monal *(Lophophorus Impeyanus)*.

9. From Dr. H. Cleghorn, a copy of his Report upon the Forests of the Punjab and the Western Himalaya.

10. From Dr. H. Cleghorn, on the part of the Rev. H. A. Jäschke, six Tibetan pamphlets lithographed at Kyelang, Lahoul.

The following letter accompanied the donation.

To the Secretary, Asiatic Society of Bengal.

SIR,—I have the pleasure to present to the Asiatic Society on behalf of Rev. H. A. Jäschke of the Moravian Institution at Kyelang in British Lahoul, six Tibetan publications printed at the Moravian Mission Press.

1. Tibetan Primer illustrated.
2. Ditto Reader containing 29 lessons on various subjects.
3. Almanac for 1862, with chronological table of the most important events in the history of the world &c. Mr. Jäschke remarks that "The Almanac having failed to excite the interest of the natives, with a few exceptions, the publication was not repeated, but it has been used in the village school as a second Reader."
4. Barth's Scripture History.
5. Harmony of the Gospels.
6. Acts of the Apostles, with a map.

"The language of all these publications is not the peculiar dialect of Lahoul or Ladak, but the established written language of the Tibetan literature, which is the standard language all over Tibet.

Having twice visited the Institution and having seen the lithographic press at work, I may be allowed to draw the attention of the Society to the interesting fact, that this is the first attempt to introduce printing into Tibet, and also to the laborious industry of this eminent Orientalist, who has with great success followed up the literary efforts of Alexander Csoma de Koros, whose Tibetan Grammar and Dictionary were published in 1834, under the auspices of this Society.

Mr. Jäschke is, I believe, the best Tibetan scholar in India, and has lately communicated some interesting articles to the Imperial Academy of Sciences at St. Petersburg; since 1857, he has been insulated in his mountain home, constantly engaged in mastering the Tibetan language, and in preparing an improved and enlarged Dictionary, now

nearly completed; without, so far as I know, considering how or where it is to be published.

I think that this Society might give expression to their sense of his indefatigable labour, and proffer their assistance in the forthcoming publication. A list of the Tibetan Books and Manuscripts in the Library would be valuable to Mr. Jäeschke, and perhaps there may be duplicates. He expressed his grateful thanks for the good offices of the Lieutenant-Governor of the Punjab, (Mr. McLeod,) in lending him various Sanscrit and Tibetan works, and in assisting him in other ways.

Your's truly,

(Signed) H. Cleghorn, M. D.

Calcutta, 11th January, 1865.

Dr. Cleghorn said he had visited Dr. Jäschke's school, (which was the only Government-aided school north of the snows,) and had seen twenty-two Tibetan boys reading, and a number of girls also receiving instruction. Dr. Jäschke had printed the books on the table with the most slender appliances, viz. three broken lithographic stones, which he had received from the Lawrence Asylum. He was now engaged in the preparation of a Tibetan Dictionary, but had made no preparation for publishing his work when complete. He would be greatly indebted to the Society for any assistance it could afford, by the loan of Tibetan works in its library or otherwise.

The President said he felt no doubt that the Society would be glad to afford Dr. Jäschke every assistance in its power.

11. From Mrs. David Wood, a *Turbo marmoratus*.

The Secretary read the following extract from a letter from Dr. Falconer to Mr. Grote, on some recent discoveries at Gibraltar.

Off Cape St. Vincent, 24th October, 1864.

My dear Grote,

"Here I am on my way to Gibraltar with a friend, to look after the interests of some very ancient human and other remains from a recently discovered Cave in Gibraltar.

Besides these, a human skull has turned up from the rock, of extreme antiquity; but the precise origin of it is unknown. By the internal characters it goes very low in the scale, and in some respects nearer the monkey than anything yet seen, but still distinctly human.

* * * * * * *

(Signed) H. Falconer.

Letters from Dr. C. R. Francis, Lieutenant-Colonel S. R. Tickell, H. D. Sandeman, Esq., and C. S. Hogg, Esq., intimating their desire to withdraw from the Society, were recorded.

The following gentlemen duly proposed at the last meeting were balloted for and elected Ordinary Members.

Lieutenant J. H. Urquhart, R. E.

Dr. J. Anderson.

The following gentlemen were named for ballot as Ordinary Members at the next meeting.

Moonshee Newul Kishwur, proposed by Moulavi Abdool Luteef Khan Bahadoor, seconded by Baboo Rajendralal Mitra.

E. Wilmot, Esq., Principal of Delhi College, proposed by Captain W. N. Lees, seconded by Mr. Heeley.

Phillip H. Egerton, Esq., B. C. S., Kangra, proposed by Mr. E. C. Bayley, seconded by Mr. H. F. Blanford.

S. H. Robinson, Esq., proposed by Mr. Grote, seconded by Mr. Woodrow.

Communications were received—

1. From Baboo Gopinath Sen; An abstract of the Results of the Hourly Meteorological Observations taken at the Surveyor General's Office in the month of October, 1864.

2. From the Rev. M. A. Sherring, LL. B., and C. Horne, Esq. C. S.; "Some account of ancient remains at Saidpur and Bhitari."

3. From the Rev. F. Mason, through Colonel Phayre;—Answers to the "queries for travellers," embracing the physical characteristics of the Karens.

4. From Dr. J. L. Stewart, Notes of observations on the Biksas of the Bijnour District.

The discussion of the Meteorological report, which was deferred at the last General Meeting, was resumed.

Mr. Heeley read the draft Meteorological Report submitted by the Council for the approval of the Meeting, and Mr. Blanford read again a memorandum on the steps which had been taken by the Society in the preparation of the above; also the letter from Government submitted at the previous meeting of the Society. (For the above, see Proceedings for December, 1864.)

After some discussion, in which Colonel Strachey, the President, Colonel Thuillier, Mr. Heeley, and Mr. Blanford, took part, the Report

was submitted for the approval of the meeting, and adopted. It was then proposed by Dr. Brandis, and seconded by Captain de Bourbel that, ———

"The Society considering that the interests of Science and the welfare of the country generally will best be furthered by the submission of the report to the Government of India, resolve that the report of the Meteorological Committee be submitted to the Government of India as originally intended.

Mr. Heeley proposed, and Mr. Blanford seconded the following amendment :—

"That the draft report intended for communication to Government be published with its annexures as an appendix to our proceedings, for convenience of circulation among persons interested in the establishment of an improved system of Meteorological report and registration."

The amendment being put to the meeting was negatived, and the votes being then taken on the original motion, it was declared carried by the meeting.

LIST OF ORDINARY MEMBERS.

The * distinguishes Non-Subscribing and the † Non-Resident Members.

Date of Election.			
1847	June	2.	†Abbott, Lieut.-Col. J., Artillery.	Umballa.
1860	Dec.	5.	Abdool Luteef, Khan Bahadur, Maulavi.	Calcutta.
1860	July	4.	†Ahmad Khan Saiëd, Bahadur.	Allyghur.
1862	April	2.	Aitchison, C. U. Esq., C. S.	Calcutta.
1862	April	4.	†Aitchison, J. E. T. Esq., M. D.	Simla.
1859	Feb.	2.	*Alabaster, C. Esq.	China.
1852	July	7.	*Allen, C. Esq., B. C. S.	Europe.
1864	May	4.	†Alexander, N. S. Esq., C. S.	Purneah.
1860	Oct.	3.	Amir Ali, Khan, Múnshí.	Calcutta.
1861	May	1.	Anderson, Dr. T., F. L. S.	Calcutta.
1843	Sept.	4.	*Anderson, Lieut.-Col. W., Bengal Artillery.	Europe.
1864	Dec.	7.	Anderson, W. Esq.	Calcutta.
1860	Nov.	7.	†Anley, W. A. D. Esq.	Allahabad.
1862	Oct.	8.	Apurva Krishna, Rajah, Bahadur.	Calcutta.
1859	Oct.	12.	†Archer, Dr. C.	Dacca.
1861	Sept.	4.	Asghur Ali, Khan Bahadur, Nawab.	Calcutta.
1861	July	3.	*Asphar, J. J. T. H. Esq.	Europe.
1864	Dec.	7.	†Atkinson, E. T. Esq.	Jaunpore.
1860	Mar.	7.	Atkinson, Lieut.-Col. F. D.	Calcutta.
1855	July	4.	Atkinson, W. S. Esq., M. A., F. L. S.	Calcutta.
1861	Feb.	6.	†Austen, Capt. H. H. G., H. M.'s 24th Foot, Surv. Genl.'s Dept.	Dehra Dhoor
1826	Sept.	6.	Avdall, J. Esq.	Calcutta.
1835	Oct.	7.	*Baker, Col. W. E., Bengal Engineers.	Europe.
1860	Nov.	7.	Banerjea, Rev. K. M.	Calcutta.
1861	Mar.	6.	†Barnes, C. H. Esq.	Bhaugulpore.
1864	May	4.	Barry, Dr. J. B.	Calcutta.
1862	Aug.	6.	*Basevi, Capt. J. P., Bengal Engineers.	Europe.
1860	July	4.	*Batten, G. H. M. Esq., B. C. S.	Europe.
1838	Jan.	3.	†Batten, J. H. Esq., B. C. S.	Agra.
1859	May	4.	Bayley, E. C. Esq., B. C. S.	Calcutta.

Date of Election.			
1861 Feb.	6.	Bayley, S. C. Esq., B. C. S.	Calcutta.
1849 June	6.	Beadon, Hon'ble C., B. C. S.	Calcutta.
1864 Sept.	7.	†Beames, J. Esq., C. S.	Purneah.
1841 April	7.	Beaufort, F. L. Esq., B. C. S.	Calcutta.
1861 Sept.	4.	†Beavan, Lieut. R. C., late 62nd B.N.I.	Raneegunge.
1847 Aug.	4.	*Beckwith, J. Esq.	Europe.
1830 Sept.	1.	*Benson, Lieut.-Col. R.	Europe.
1862 Dec.	3.	†Bernard, C. E. Esq.	Nagpore.
1862 Aug.	6.	†Beverley, H. Esq., C. S.	Darjiling.
1862 June	4.	†Bhau Daji, Dr.	Bombay.
1862 July	2.	Bhola Nath Mullick, Bábu.	Calcutta.
1864 Nov.	2.	Bhoodeb Mookerjee, Bábu.	Chinsurah.
1840 July	15.	*Birch, Major-General Sir R. J. H., K. C. B.	Europe.
1864 May	4.	Bird, Dr. R., Civil Surgeon.	Howrah.
1846 Mar.	4.	*Blagrave, Major T. C., 26th Regt., B. N. I.	Europe.
1859 Sept.	7.	Blane, Lieut.-Col. S. J.	Calcutta.
1857 Mar.	4.	Blanford, H. F. Esq., A. R. S. M., F. G. S.	Calcutta.
1859 Aug.	3.	†Blanford, W. T. Esq., A. R. S. M., F. G. S. Geol. Surv.	Bombay.
1864 April	6.	Blochmann, H. Esq.	Calcutta.
1857 Aug.	2.	*Bogle, Lieut.-Col. Sir A., Kt.	Europe.
1859 Aug.	3.	Bolie Chand Singh, Bábu.	Calcutta.
1861 Mar.	6.	Boulnois, C. Esq., B. A.	Calcutta.
1864 Mar.	2.	Bowie, Lt. G. M. Madras Staff Corps,	Calcutta.
1859 Oct.	12.	†Bowring, L. B. Esq., B. S. S.	Mysore.
1854 Nov.	1.	*Boycott, Dr. T., B. M. S.	Europe.
1860 Mar.	7.	†Brandis, Dr. D.	Rangoon.
1860 Oct.	3.	*Brandreth, J. E. L. Esq.	Europe.
1864 Dec.	7.	Branson, J. H. A. Esq.	Calcutta.
1862 Jan.	15.	†Briggs, Major D.	Assam.
1847 June	2.	*Brodie, Capt. T. 5th Regt., B. N. I.	Europe.
1860 Nov.	7.	†Browne, Capt. Horace A.	Rangoon.
1863 Aug.	5.	†Bunkim Chunder Chatterjee, Bábu.	Barripore.
1860 July	4.	†Bunsput Siñha, Rajah.	Allahabad.
1856 Sept.	3.	Bushceroodin, Sultan Mohammad.	Chinsurah.
1859 April	6.	Calcutta, Right Rev. Lord Bishop of.	Calcutta.
1860 June	6.	†Campbell, C. J. Esq., C. E.	Delhi.
1859 Sept.	7.	*Campbell, Dr. A.	Europe.
1863 June	3.	Campbell, Hon'ble G.	Calcutta.
1860 Jan.	4.	†Carnac, J. H. Rivett, Esq., B. C. S.	Nagpore.
1856 Sept.	3.	Chapman, R. B. Esq., B. C. S.	Calcutta.
1860 Oct.	3.	†Christian, J. Esq.	Monghyr.

Date of Election.			
1863	Aug.	5.	†Chunder Nath Roy, Cowar. — Burdwan.
1863	June	3.	†Chunder Sekur Roy, Rajah. — Julpigori.
1863	April	1.	Cleghorn, Dr. H., Conservator of Forests, N. W. P. — Calcutta.
1863	June	3.	†Clementson, E. W. Esq. — Moulmein.
1864	May	4.	*Cline, G. W. Esq. — Europe.
1861	Sept.	4.	†Cockburn, J. F. Esq., C. E. — Kurhurbari Colliery.
1862	April	2.	Colles, J. A. P. Esq., M. D. — Calcutta.
1851	Mar.	5.	*Colvin, J. H. B. Esq., B. C. S. — Europe.
1860	Dec.	5.	†Cooper, F. H. Esq., B. C. S. — Delhi.
1857	Mar.	4.	*Cowell, E. B. Esq., M. A. — Europe.
1864	April	6.	Cowie, Rev. W. G. — Calcutta.
1861	July	3.	*Crockett, Oliver R. Esq. — China.
1862	April	2.	†Dalrymple, F. A. E. Esq., C. S. — Dacca.
1847	June	2.	†Dalton, Lieut.-Col. E. T., 9th Regt. B. N. I. — Chota Nagpore.
1861	Mar.	6.	†Davey, N. T. Esq., Revenue Survey. — Sylhet.
1861	Nov.	6.	*Davies, R. H. Esq., B. C. S. — Europe.
1864	July	6.	†Debendra Mullick, Bábu. — Calcutta.
1856	June	4.	DeBourbel, Major R., Bengal Engrs. — Calcutta.
1861	June	5.	†Denison, His Excellency Sir W., K. C. B. — Madras.
1863	Feb.	4.	†Deo Narain Sing, Hon'ble Rajah. — Benares.
1863	June	3.	†Depree, Capt. G. C., Royal Artillery. — Chota Nagpore.
1861	Mar.	6.	*Devereux, Hon'ble H. B., B. C. S. — Europe.
1862	May	7.	†Dhunpati Sinha Dooghur, Bábu. — Moorshedabad.
1853	Sept.	7.	†Dickens, Lieut.-Col. C. H. — Nagpore.
1860	Nov.	7.	Digumber Mitra, Bábu. — Calcutta.
1861	Jan.	9.	†Dodsworth, W. T. Esq. — Landour.
1859	Sept.	7.	Douglas, Lieut.-Col. C. — Calcutta.
1854	July	5.	†Drummond, Hon'ble E., B. C. S. — Allahabad.
1863	Nov.	4.	Duff, W. P. Esq. — Calcutta.
1861	Feb.	6.	†Duhan, H. Esq., G. T. Survey. — Dehra Dhoon.
1864	Dec.	7.	Dunlop, H. G. Esq. — Calcutta.
1860	Jan.	4.	*Duka, Dr. T. — Europe.
1861	May	1.	*Earle, Capt. E. L., Bengal Artillery. — Europe.
1857	May	6.	*Eatwell, Dr. W. C. B. — Europe.
1840	Oct.	7.	*Edgeworth, M. P. Esq., B. C. S. — Europe.
1863	Mar.	4.	Eden, Hon'ble A. — Calcutta.
1863	May	6.	†Edgar, W. Esq., B. C. S. — Cachar.
1859	May	4.	*Edmonstone, Hon'ble G. F., B. C. S. — Europe.
1846	Jan.	7.	*Elliott, Walter, Esq., M. C. S. — Europe.

Date of Election.		
1859 Nov.	2.	†Elliott, C. A. Esq., B. C. S. — Hoshungabad.
1863 April	1.	†Ellis, Hon'ble R. S., C. S., C. B. — Madras.
1856 Mar.	5.	*Ellis, Lieut.-Col. R. R. W., 23rd Regt. B. N. I. — Europe.
1854 Nov.	1.	†Elphinstone, Capt. N. W. 4th Regt. B. N. I. — Jullundur.
1861 Jan.	9.	†Erskine, Hon'ble C. J., B. C. S. — Bombay.
1856 Aug.	6.	*Erskine, Major W. C., C. B. — Europe.
1863 Oct.	7.	*Ewart, Dr. J. — Europe.
1862 Aug.	6.	*Eyre, Col. Vincent, C. B. — Europe.
1851 May	7.	Fayrer, Dr. J., B. M. S. — Calcutta.
1863 Jan.	15.	†Fedden, Francis, Esq., Geol. Survey. — Rangoon.
1859 Oct.	12.	Fisher. A. Esq. — Calcutta.
1860 Mar.	7.	Fitzwilliam, Hon'ble W. S. — Calcutta.
1861 Feb.	6.	†Forrest, R. Esq., Civil Engineer. — Dehra Dhoon.
1863 Dec.	2.	†Forsyth, J. Esq. — Seonee.
1863 June	3.	†Forsyth, T. D. Esq., C. B. — Lahore.
1864 Aug.	11.	Francis, Dr. C. R. — Calcutta.
1860 Mar.	7.	†Frere, His Excellency Sir H. Bartle, K. C. B., B. C. S. — Bombay.
1861 Sept.	4.	†Fuller, Capt. A. R. — Lahore.
1859 Oct.	12.	†Furlong, Major J. G. R. — Agra.
1859 Dec.	7.	Futteh Ali, Maulavi. — Calcutta.
1849 Sept.	5.	†Fytche, Lieut.-Col. A., 70th Regt. B. N. I. — Maulmein.
1864 Aug.	11.	Garrett, C. B. Esq., C. S. — Calcutta.
1859 Aug.	3.	Gastrell, Lieut.-Col. J. E., 13th Regt. N. I., Rev. Survey. — Calcutta.
1859 Sept.	7.	Geoghegan, J. Esq., B. C. S. — Calcutta.
1842 Sept.	2.	*Gladstone, W. Esq. — Europe.
1859 Sept.	7.	*Goodeve, E. Esq., M. D. — Europe.
1864 June	1.	Goolden, R. E. Esq. — Calcutta.
1862 July	2.	†Gordon, J. D. Esq., C. S. — Pubna.
1864 Dec.	5.	†Gooroochurn Doss, Bábu. — Jahanabad.
1860 Sept.	5.	†Goss, W. Forbes, Esq. — Sumbulpore.
1862 Feb.	5.	†Gourdoss Bysack, Bábu. — Bagerhaut.
1840 Sept.	6.	Govin Chunder Sen, Bábu. — Calcutta.
1863 Nov.	4.	†Gowan, Major J. G. — Saugor.
1859 Dec.	7.	*Grant, Sir J. P., K. C. B. — Europe.
1860 Jan.	4.	Grant, T. R. Esq. — Calcutta.
1860 July	4.	Grey, Hon'ble W., B. C. S. — Calcutta.
1861 Sept.	4.	†Griffin, L. Esq., B. C. S. — Guzerat.
1860 Nov.	7.	†Griffith, R. T. H. Esq. — Benares.
1849 Aug.	1.	Grote, A. Esq., B. C. S., F. L. S. — Calcutta.
1861 Feb.	6.	*Growse, F. S. Esq., B. C. S. — Europe.

Date of Election.			
1862	Feb.	5.	Guthrie, Col. C. S., Bengal Engrs.	Calcutta.
1847	June	2.	*Hall, F. E. Esq., M. A., D. C. L.	Europe.
1860	May	2.	*Halleur, Dr. H.	Europe.
1863	June	3.	†Hamilton, Col. G. W.	Delhi.
1855	Mar.	7.	*Hamilton, R. Esq.	China.
1828	Nov.	12.	*Hamilton, Sir R. N. E., Bart., B. C. S.	Europe.
1847	May	5.	*Hannyngton, Col. J., C., 63rd Regt. N. I.	Europe.
1859	Oct.	12.	*Hardie, Dr. G. K.	Europe.
1863	Mar.	4.	Hari Doss Dutt, Bábu.	Calcutta.
1862	Oct.	8.	Harington, Hon'ble H. B.	Calcutta.
1860	Oct.	3.	†Harris, E. B. Esq., Civil Surgeon.	Monghyr.
1861	Feb.	6.	†Harrison, A. S. Esq., B. A.	Behar.
1864	Nov.	2.	Hatton, C. W. Esq.	Calcutta.
1859	Oct.	12.	†Haughton, Lieut.-Col. J. C.	Cooch Behar.
1848	May	3.	*Hearsay, Maj.-Gl. Sir J B., K. C. B.	Europe.
1862	Aug.	6.	Heeley, W. L. Esq., C. S.	Calcutta.
1859	Aug	3.	*Henessey, J. B. N. Esq.	Europe.
1853	July	6.	†Herschel, W. J. Esq., B. C. S.	Midnapore.
1854	Mar.	1.	*Hichens, Lieut. W., Bengal Engrs.	Europe.
1860	May	2.	†Hobhouse, C. P. Esq., B. C. S.	Midnapore.
1862	Oct.	8.	Hogg, C. S. Esq.	Calcutta.
1859	Sept.	7.	†Hopkinson, Major H.	Assam.
1863	July	1.	†Horne, C. Esq., C. S.	Benares.
1860	Mar.	7.	Hovenden, Major J. J., Bengal Engrs.	Calcutta.
1863	Jan.	15.	†Howell, M. S. Esq., C. S.	Bareilly, Rohilkund.
1862	July	2.	Hyde, Lieut.-Col. H., Royal Engrs.	Calcutta.
1860	Jan.	4.	†Innes, Major J. J. M.	Lahore.
1862	Oct.	8.	†Irwin, Valentine, Esq., C. S.	Jessore.
1853	Dec.	7.	†Ishureeprasád Sinha, Bahadur, Rajah.	Benares.
1864	Sept.	7.	Jackson, Hon'ble E.	Calcutta.
1861	Jan.	9.	*Jackson Hon'ble L. S., B. C. S.	Europe.
1841	April	7.	*Jackson, W. B. Esq., B. C. S.	Europe.
1851	April	2.	Jádava Krishna Sinha, Bábu.	Calcutta.
1864	June	1.	†Jadu Nauth Mookerjee, Bábu.	Rajshahi.
1861	Dec.	4.	†James, Major H. R., C. B.	Peshawur.
1864	Sept.	7.	Jardine, R. Esq., C. S.	Calcutta.
1845	Dec.	3.	†Jerdon, Dr. T. C., M. M. S.	Mussoorie.
1847	June	2.	*Johnstone, J. Esq.	Europe.
1862	Mar.	5.	†Johnstone, Lieut. J., Assistant Commissioner.	Bunnoo.
1859	Sept.	7.	*Jones, R. Esq.	Europe.

Date of Election		
1857 April 1.	Joygopal Bysack, Bábu.	Calcutta.
1864 Mar. 2.	Juggodanund Mookerjea.	Calcutta.
1864 Feb. 3.	Kaliprosunno Dutt, Bábu.	Calcutta.
1858 Feb. 3.	Kaliprasonno Sinha, Bábu.	Calcutta.
1863 July 1.	Kane, H. S. Esq., M. D.	Calcutta.
1859 Mar. 2.	Kásinath Roy Chaudhuri, Bábu.	Cásipore, Calcutta.
1850 April 8.	*Kay, Rev. W., D. D.	Europe.
1861 Dec. 4.	†Kempson, M. Esq., M. A.	Bareilly.
1862 Jan. 15.	†King, W. Esq., Jr., Geol. Survey	Madras.
1839 Mar. 6.	*Laidlay, J. W. Esq.	Europe.
1861 Mar. 6.	*Laing, Hon'ble S.	Europe.
1863 Sept. 2.	Lane, T. B. Esq., B. C. S.	Calcutta.
1851 Dec. 3.	†Layard, Major F. P.	Bhagulpore.
1864 Feb. 3.	†Leeds, H. Esq., Conservator of Forests.	Burmah.
1852 April 7.	Lees, Capt. W. N., LL.D.	Calcutta.
1859 Dec. 7.	*Leonard, H. Esq., C. E.	Europe.
1863 May 6.	Levinge, Hon'ble E. P	Calcutta.
1856 Feb. 6.	*Liebig, Dr. G. Von., B. M. S.	Europe.
1860 Jan. 4.	Lindsay, E. J. Esq.	Calcutta.
1861 Nov. 6.	†Lloyd, Capt. M.	Tounghoo.
1862 Dec. 3.	Lobb, S. Esq., M. A.	Calcutta.
1835 Oct. 7.	Loch, Hon'ble G., B. C. S.	Calcutta.
1864 Nov. 2.	Locke, H. H. Esq.	Calcutta.
1828 July 2.	*Low, Major-General Sir J., K. C. B.	Europe.
1861 April 3.	†Lumsden, Major P. S.	Murree, Punjab
1854 Nov. 1.	*Lushington F. A. Esq., B. C. S.	Europe.
1863 April 1.	†MacDonald, Capt. D., Rev. Survey.	Maunbhoom.
1848 April 5.	†Maclagan, Lieut.-Col. R., F. R. S. E.	Lahore.
1862 Mar. 5.	Macnamara, Dr. F. N.	Calcutta.
1853 April 6.	*Macrae, Dr. A. C., B. M. S.	Europe.
1863 Jan. 15.	Maine, Hon'ble H. S.	Calcutta.
1860 Jan. 4.	Mair, D. K. Esq., M. A.	Calcutta.
1862 Sept. 3.	Mallet, F. R. Esq.	Calcutta.
1860 July 4.	*Man, E. G. Esq.	Europe.
1852 Nov. 3.	Manickjee Rustomjee. Esq.	Calcutta.
1861 June 5.	†Mán Sinha Bahadur. Maháraja.	Oudh.
1864 Aug. 11.	*Marks, Rev. J. Ebenezer.	Europe.
1850 Jan. 2.	*Marshman, J. C. Esq.	Europe.
1862 Sept. 3.	†Martin, R. L. Esq., B. A.	Dacca.
1863 Nov. 4.	Martin, R. T. Esq.	Calcutta.
1863 Oct. 7.	Martin, T. Esq.	Calcutta.
1863 Nov. 4.	*McClelland, Dr. J.	Europe.

Date of Election.			
1862	July	3.	McCrindle, J. W. Esq., M. A. — Calcutta.
1837	Oct.	4.	†McLeod, Hon'ble D. F., C.B., B.C.S. — Lahore.
1860	Mar.	7.	Medlicott, H. B. Esq., F. G. S. — Calcutta.
1853	April	6.	*Medlicott, J. G. Esq., B. A. — Europe.
1861	Feb.	6.	†Melville, Capt. A. B., late 67th N. I. Surv. Genl.'s Dept. — Gwalior.
1855	Nov.	7.	*Middleton, J. Esq. — Europe.
1850	April	3.	*Mills, A. J. M. Esq., B. C. S. — Europe.
1863	Nov.	4.	†Modhoosoodun Doss, Bábu. — Dacca.
1860	April	4.	†Money, A. Esq., B. C. S. — Bhagulpore.
1847	April	7.	*Money, D. J. Esq., B. C. S. — Europe.
1856	Feb.	6.	Money, J. W. B. Esq. — Calcutta.
1860	Feb.	1.	†Montgomerie, Capt. T. G., B. E., F. R. G. S., Trigonometrical Survey. — Dehra Dhoon.
1854	Dec.	6.	*Morris, G. G. Esq., B. C. S. — Europe.
1864	June	1.	†Moula Bukhsh Khan Bahadoor, Maulvi. — Patna.
1837	July	5.	*Muir, J. Esq. — Europe.
1854	Oct.	11.	Muir Hon'ble W. B. C. S. — Calcutta.
1859	Aug.	3.	†Murray, Lieut. W. G., 68th N. I. — Rewah.
1864	Jan.	13.	†Murray, W. Esq., B. C. S. — Gowhatty, Assam.
1862	July	2.	Napier, Hon'ble Major-Genl. Sir R., K. C. B. — Calcutta.
1860	Nov.	7.	†Newmarch, Major C. D. — Pegu.
1852	Sept.	1.	*Nicholls, Capt. W. T., 24th Regiment, M. N. I. — Europe.
1863	Sept.	2.	Norman, Capt. F. B. — Calcutta.
1863	Jan.	15.	Norman, Hon'ble J. P. — Calcutta.
1862	April	2.	Norman, Lieut.-Col. H. W., C. B. — Calcutta.
1859	Aug.	3.	Obbard, J. Esq. — Calcutta.
1860	June	4.	†Oldham, C. Esq., Geological Survey. — Madras.
1851	June	4.	Oldham, T. Esq., LL.D., F. R. S. — Calcutta.
1864	Dec.	7.	Onslow, D. R., Esq. — Calcutta.
1837	June	7.	*O'Shaughnessy, Sir W. B. — Europe.
1847	Feb.	10.	*Ousely, Major W. R. — Europe.
1864	Mar.	2.	Palmer, Dr. W. J. — Calcutta.
1862	May	7.	Partridge, S. B. Esq., M. D. — Calcutta.
1860	Feb.	1.	†Pearse, Major G. G. — Madras.
1864	Mar.	2.	†Pellew, F. H. Esq., C. S. — Burrisal.
1835	July	1.	†Phayre, Lt.-Col. A. P., C. B. — Rangoon.
1864	Nov.	2.	Phear, Hon'ble J. B. — Calcutta.
1862	Oct.	8.	†Poolin Behary Sen, Bábu. — Berhampore.
1863	July	1.	†Porter, G. E. Esq., C. S. — Burdwan.

Date of Election.			
1849 Sept.	5.	PratapchandraSinha,Rajah,Bahadur.	Calcutta.
1839 Mar.	6.	Pratt,Ven'ble ArchdeaconJ.H.,M.A.	Calcutta.
1860 Jan.	4.	Preonath Sett, Bábu.	Calcutta.
1825 Mar.	9.	*Prinsep, C. R. Esq.	Europe.
1837 Feb.	1.	Prosonno Coomar Tagore, Bábu.	Calcutta.
1864 Feb.	3.	†Pullan, Lieut. A.	Dehra Dhoon.
1862 April	2.	†Raban, Major H.	Chera Poonjee.
1853 April	6.	Radha Nath Sikdar, Bábu.	Calcutta.
1849 Sept.	5.	Rajendra Dutt, Bábu.	Calcutta.
1856 Mar.	5.	Rajendralala Mitra, Bábu.	Calcutta.
1864 May	4.	Ramánath Bose, Bábu.	Calcutta.
1837 Feb.	1.	Ramánath Tagore, Bábu.	Calcutta.
1860 Mar.	7.	*Reid, H. S. Esq.	Europe.
1864 Dec.	7.	†Richardson, R. J. Esq., C. S.	Gya.
1857 June	7.	Riddell, H. B. Esq., B. C. S.	Calcutta.
1860 Nov.	7.	†Riley, E. O. Esq., F. G. S.	Bassein.
1857 Aug.	6.	Roberts, Hon'ble A., B. C. S.	Calcutta.
1863 April	1.	†Robertson, C. Esq., C. S.	Allahabad.
1864 Dec.	7.	†Robertson, E. S. Esq.	Benares.
1863 May	6.	†Robertson, H. D. Esq., C. S.	Saharunpore.
1862 Mar.	5.	†Robinson, Capt. D. G., Bengal Engineers.	Dehra Dhoon.
1853 Aug.	3.	*Roer, Dr. E.	Europe.
1847 Dec.	1.	*Rogers, Capt. T. E.	Europe.
1859 Sept.	7.	*Russell, A. E. Esq., B. C. S.	Europe.
1860 July	4.	Sampson, A. B. Esq., B. A.	Calcutta.
1863 Nov.	4.	Sandeman, H. D. Esq., B. C. S.	Calcutta.
1864 Dec.	7.	Sarkies, J. C. Esq.	Calcutta.
1859 Feb.	2.	†Satischunder Roy, Mahárajah.	Krishnagur.
1856 Aug.	6.	Satyasharana Ghosal, Rajah.	Bhookylas, Calcutta.
1861 Dec.	4.	†Saunders, C. B. Esq., B. C. S.	Mysore.
1864 June	1.	Saunders, J. O'B. Esq.	Calcutta.
1854 Dec.	6.	†Saxton, Lt.-Col. G. H., 38th M. N. I.	Cuttack.
1854 May	2.	Schiller, F. Esq.	Calcutta.
1860 Feb.	1.	*Scott, Col. E. W. S.	Europe.
1859 Aug.	3.	†Scott, W. H. Esq.	Dehra Dhoon.
1863 Sept.	3.	Shama Churn Sirkar, Bábu.	Calcutta.
1860 July	4.	†Shelverton, G. Esq.	Dehra Dhoon.
1845 Jan.	14.	*Sherwill, Lt.-Col. W. S., 66th Regiment B. N. I., F. G. S., F. R. G. S.	Europe.
1864 Nov.	2.	Short, Lt.-Col. W. D., R. E.	Calcutta.
1864 June	1.	Showers, Brig.-Genl. H. G. D.	Calcutta.
1863 April	1.	Showers, Major C. L.	Calcutta.

Date of Election.			
1864	Feb.	3.	Shumbhoonath Pundit, Hon'ble. — Calcutta.
1860	July	4.	†Simpson, Dr. B. — Darjiling.
1864	Sept.	7.	†Sladen, Capt. E. B. — Rangoon.
1856	Feb.	6.	*Smith, Col. J. F. — Europe.
1862	Feb.	5.	†Smyth, Capt. E. — Almorah.
1854	Sept.	6.	†Spankie, R. Esq., B. C. S. — Meerut.
1864	Mar.	2.	†Spearman, H. R. Esq. — Prome.
1860	May	2.	†Staunton, Major F. S., Beng. Engrs. — Darjiling.
1843	Sept.	4.	*Stephen, Major J. G., 8th N. I. — Europe.
1863	Jan.	15.	†Sterndale, R. A. Esq. — Nagpore.
1862	Oct.	2.	†Stevens, C. C. Esq. — Buxar.
1863	May	6.	†Stevens, W. H. Esq. — Sylhet.
1863	Sept.	2.	Stewart, D. Esq. — Calcutta.
1864	April	6.	†Stewart, J. L. Esq., M. D. — Gooroodaspore.
1864	Dec.	7.	*Stewart, Major P. — Europe.
1861	Sept.	4.	Stokes, Whitley, Esq. — Calcutta.
1863	Nov.	4.	Stoliczka, Dr. F. — Calcutta.
1848	June	7.	Strachey, J. Esq., B. C. S. — Calcutta.
1843	May	3.	Strachey, Lt.-Col. R., F. R. S., F. L. S., F. G. S. — Calcutta.
1859	Mar.	2.	*Stubbs, Capt. F. W., Bengal Artillery. — Europe.
1861	Oct.	2.	†Sudderuddin, Moonshi. — Pundooah.
1858	July	7.	†Sutherland, H. C. Esq., B. C. S. — Burdwan.
1864	Aug.	11.	Swinhoe, W. Esq. — Calcutta.
1864	Sept.	7.	Taruck Chunder Sircar, Bábu. — Calcutta.
1860	May	2.	†Temple, R. Esq., B. C. S. — Nagpur.
1859	Mar.	2.	†Theobald, W. Esq., Jr., Geological Survey. — Thayet-Myo.
1860	June	6.	Thompson, J. G. Esq. — Calcutta.
1863	Mar.	4.	†Thompson, Major G. H., Bengal Staff Corps. — Hazareebag.
1855	June	6.	*Thomson, Dr. T., M. D., F. R. S., F. L. S., F.R.G.S. — Europe.
1853	Nov.	21	†Thornhill, C. B. Esq., B. C. S. — Allahabad.
1863	June	4.	†Thornton, T. H. Esq. — Delhi.
1847	June	2.	Thuillier, Lt.-Col. H. L., F.R.G.S., Bengal Artillery. — Calcutta.
1863	May	6.	Thuillier, Lt. H. R. — Calcutta.
1862	July	2.	*Thurlow, Hon'ble T. J. H. — Europe.
1859	Nov.	2.	†Tickell, Lt.-Col. S. R. — Pegu.
1862	Feb.	5.	†Torrens, Col. H. D. — Simla.
1861	June	5.	†Tremlett, J. D. Esq., C. S. — Jullundur.
1863	Mar.	4.	Trevelyan, Right Hon'ble Sir C., K. C. B. — Calcutta.
1841	Feb.	3.	Trevor, Hon'ble C. B., B. C. S. — Calcutta.

Date of Election.			
1863 Feb.	4.	Trevor, E. T. Esq., B. C. S.	Calcutta.
1864 Mar.	2.	†Trevor, Lt. E. A. Royal Eng.	Punjab.
1864 July	6.	†Trotter, Lieut. H. Bengal Eng.	Dehra Dhoon.
1864 Sept.	4.	Tween, A. Esq., Geological Survey.	Calcutta.
1863 May	6.	†Tyler, Dr. J.	Etah.
1860 May	2.	*Vanrenen, Capt. A. D., late 71st B. N. I., R. Survey.	Europe.
1864 Feb.	3.	†Verchere, A. M., Esq.,M. D.	Bunnoo.
1864 April	6.	Vijayaráma Gajapati Raz Munniam Sultan Bahadur, Maharajah Mirza.	Calcutta.
1863 Oct.	7.	Waheedoon Nubee, Maulavi, Khan Bahadoor.	Calcutta.
1861 May	1.	*Walker, Major J. T., Bombay Engrs.	Europe.
1863 Dec.	2.	Waller, A. G. Esq.	Calcutta.
1863 May	6.	*Wall, P. W. Esq., C. S.	Europe.
1863 Oct.	7.	Waller, Dr. W. K.	Calcutta.
1863 Dec.	2.	Walters, Rev. M. D. C.	Calcutta.
1862 Jan.	15.	†Ward, G. E. Esq.	Saharunpore.
1852 July	7.	*Ward, J. J. Esq., B. C. S.	Europe.
1859 July	6.	†Warrand, R. H. M. Esq., B. C. S.	Cawnpore.
1854 July	5.	*Watson, J. Esq., B. C. S.	Europe.
1847 Nov.	3.	*Waugh, Major-General Sir A. S., C. B., F. R. S., F. R. G. S.	Europe.
1862 Oct.	8.	Wheeler, J. T. Esq.	Calcutta.
1864 July	6.	†Whishaw, J. C. Esq., Civil Surgeon.	Fyzabad.
1864 Mar.	2.	Wilkinson, C. J. Esq.	Calcutta.
1861 Sept.	4.	†Williams, Dr. C., H. M.'s 68th Regt.	Mandelay.
1859 Sept.	7.	†Willson, W. L. Esq.	Beerbhoom.
1859 Aug.	3.	†Wilmot, C. W. Esq.	Deoghur.
1861 May	7.	Woodrow, H. Esq., M. A.	Calcutta.
1859 Mar.	2.	*Wortley, Major A. H. P.	Europe.
1862 Aug.	6.	*Wylie, J. W. Esq., Bombay C. S.	Europe.
1855 April	4.	*Young, Lt.-Col. C. B.	Europe.
1856 July	2.	*Yule, Lt.-Col. H.	Europe.

LIST OF HONORARY MEMBERS.

Date of Election.			
1825	Mar.	9.	M. Garcin de Tassy, Membre del' Inst. — Paris.
1826	,,	1.	Sir John Phillippart. — London.
1829	July	1.	Count De Noe. — Paris.
1831	Sept.	7.	Prof. Francis Bopp, Memb. de l'Academie. — Berlin.
1831	,,	7.	Prof C. Lassen. — Bonn.
1834	Nov.	5.	Sir J. F. W. Herschel, F. R. S. — London.
1834	,,	5.	Col. W. H. Sykes, F. R. S. — London.
1835	May	6.	Prof. Lea. — Philadelphia.
1840	Mar.	4.	M. Reinaud, Memb. de l' Instit., Prof. de l' Arabe. — Paris.
1842	Feb.	4.	Dr. Ewald. — Gottingen.
1842	,,	4.	Right Hon'ble Sir Edward Ryan, Kt. — London.
1843	Mar.	30.	Prof. Jules Mohl, Memb. de l' Instit. — Paris.
1847	May	5.	His Highness Hekekyan Bey. — Egypt.
1847	Sept.	1.	Col. W. Munro. — London.
1847	Nov.	3.	His Highness the Nawab Nazim of Bengal. — Moorshedabad.
1848	Feb.	2.	Dr. J. D. Hooker, R. N., F. R. S. — London.
1848	Mar.	8.	Prof. Henry. — United States.
1853	April	6.	Major-Gen. Sir H. C. Rawlinson, K. C. B., F. R. S., D. C. L. — London.
1854	Aug.	2.	Col. Sir Proby T. Cautley, K. C. B., F. R. S. — London.
1855	Mar.	7.	Rájá Rádhákánta Deva, Báhádur. — Brindabun.
1858	July	6.	B. H. Hodgson, Esquire. — Europe.
1858	,,	6.	Dr. H. Falconer, F. R. S., B. M. S. — Europe.
1859	Mar.	2.	Hon'ble Sir J. W. Colvile, Kt. — Europe.
1860	,,	7.	Prof. Max Muller. — Oxford.
1860	Nov.	7.	Mons. Stanislas Julien. — Paris.
1860	,,	7.	Col. Sir George Everest, Kt., F. R. S. — London.
1860	,,	7.	Dr. Robert Wight. — London.
1860	,,	7.	Edward Thomas, Esquire. — London.
1860	,,	7.	Dr. Aloys Sprenger. — Germany.
1860	,,	7.	Dr. Albrecht Weber. — Berlin.

LIST OF CORRESPONDING MEMBERS.

1844	Oct.	2.	MacGowan, Dr. J.	Europe.
1856	June	4.	Kremer, Mons. A. Von.	Alexandria.
1856	,,	4.	Porter, Rev. J.	Damascus.
1856	,,	4.	von Schlagintweit, Herr H.	Berlin.
1856	,,	4.	Smith, Dr. E.	Beyrout.
1856	,,	4.	Tailor J., Esquire.	Bussorah.

Date of Election.		
1856 June 4.	Wilson, Dr.	Bombay.
1857 Mar. 4.	Neitner, J., Esquire.	Ceylon.
1858 „ 3.	von Schlagintweit, Herr R.	Berlin.
1859 Nov. 2.	Frederick, Dr. H.	Batavia.
1859 May 4.	Bleeker, Dr. P.	Batavia.
1860 Feb. 1.	Baker Rev. H.	E. Malabar.
1860 „ 1.	Swinhoe, R., Esq., H. M.'s Consulate.	Amoy.
1860 April 4.	Haug, Dr. M.	Poonah.
1861 July 3.	Gosche, Dr. R.	Berlin.
1862 Mar. 5.	Murray, A., Esquire.	London.
1863 Jan. 15.	Goldstücker, Dr. T.	London.
1863 July 4.	Barnes, R. H. Esquire.	Ceylon.

LIST OF ASSOCIATE MEMBERS.

1835 Oct. 7.	Stephenson J., Esquire.	Europe.
1838 Feb. 7.	Keramut Ali. Saied.	Hooghly.
1843 Dec. 6.	Long, Rev. J.	Europe.
1845 Jan. 14.	Blyth, E., Esquire.	Europe.

ELECTIONS IN 1864.

Ordinary Members.

W. Murray, Esq., B. C. S.	Assam.
Lieut. A. Pullan,	Dehra Dhoon.
Baboo Kaliprosunno Dutt,	Calcutta.
Hon'ble Shumbhoo Nath Pundit,	Ditto.
H Leeds, Esq.	Burmah.
A. M. Verchere, Esq., M. D.	Bunnoo.
Lieut. G. M. Bowie,	Calcutta.
Baboo Jugodanund Mookerjee,	Ditto.
Dr. W. J. Palmer,	Ditto.
F. H. Pellew, Esq., C. S.	Burrisal.
H. R. Spearman, Esq.	Prome.
Lieut. E. A. Trevor,	Calcutta.
C J. Wilkinson, Esq.	Ditto.
H. Blochmann, Esq.	Ditto.
Rev. W. G. Cowie,	Ditto.
Mirza Vijayaráma Gajapati Raj Munniam Sultan Bahadur,	Ditto.
J. L. Stewart, Esq., M. D.	Gooroodáspore.
N. S. Alexander, Esq.	Purneah.
Dr. J. B. Barry,	Calcutta.
Dr. R. Bird,	Howrah.
G. W. Cline, Esq.	Baitool, Cenl. Provinces.
Babu Ramá Nath Bose,	Calcutta.
Moulavi Moula Bukhsh Khan Bahadoor	Patna.
R. E. Goolden, Esq.	Calcutta.
Baboo Jadu Nath Mookerjee,	Rajshaye.
Brigadier General H. G. D. Showers,	Calcutta.
J. O'B. Saunders, Esq.	Ditto.
Lieut. H. Trotter, Bengal Engineers,	Dehra Dhoon.
J. C. Whishaw, Esq., Civil Surgeon,	Fyzabad.
Baboo Debendra Mullick,	Calcutta.
Dr. C. R. Francis.	Ditto.
C. B. Garrett, Esq., C. S.	Ditto.
Rev. J. Ebenezer Marks,	Rangoon.
W. Swinhoe, Esq.	Calcutta.
J. Beames, Esq., C. S.	Purneah.
R. Jardine, Esq., C. S.	Calcutta.
Hon'ble E. Jackson,	Ditto.
Capt. E. B. Sladen,	Rangoon.
Baboo Taruck Chunder Sircar,	Calcutta.
H. H. Locke, Esq.	Ditto.
Hon'ble J. B. Phear,	Ditto.
Lieut.-Col. W. D. Short, R. E.	Ditto.
Baboo Bhoodeb Mookerjee,	Chinsurah.
C. W. Hatton, Esq.	Calcutta.
W. Anderson, Esq.	Ditto.

E. T. Atkinson, Esq.	Jaunpore.
H. Dunlop, Esq.	Calcutta.
J. H. A. Branson, Esq.	Ditto.
D. R. Onslow, Esq.	Ditto.
R. J. Richardson, Esq., C. S.	Gya.
J. C. Sarkies, Esq.	Calcutta.
E. S. Robertson, Esq.	Benares.
Whitley Stokes, Esq.	Calcutta.

LOSS OF MEMBERS DURING THE YEAR 1864.

By retirement.

Lieut.-Col. L. Pelly,	Bushire.
Lieut. W. J. Stewart,	Burrisal.
Rev. J. C. Thompson,	Calcutta.
E. G. Glazier, Esq.	Dacca.
Saheb Zada Mohammad Walagohur,	Calcutta.
H. M. Rogers, Esq.	Ditto.
J. Stephenson, Esq.	Ditto.
D. H. Macfarlane, Esq.	Ditto.
H. Stainforth, Esq.	Ditto.
A. M. Monteath, Esq.	Ditto.
Capt. E. Davidson,	Ditto.
Major A. D. Dickens,	Ditto.
R. H. Wilson, Esq.	Ditto.
Baboo Ramgopal Ghose,	Ditto.
J. P. Grant, Esq., Jr.	Ditto.
D. M. Gardener, Esq.	Meerut.
Rev. J. Cave Browne,	Calcutta.
Lieut.-Col. A. Fraser,	Alguada Reef.
T. Dickens, Esq.	Calcutta.
J. Squire, Esq.	Simla.
Major A. B. Johnson.	Calcutta.

By death.

H. Scott Smith, Esq.	Calcutta.
R. H. Russell, Esq.	Midnapore.
Prince Jallaluddin Mohammad,	Calcutta.
Huzrut Shah Kabeeruddin Ahmad,	Sasseram.
Lieut.-Col. A. D. Turnbull,	Roorkee.
Major J. L. Sherwill,	Raneegunge.
L. F. Byrne, Esq., C. E.	Lahore.

In accordance with the announcement of the Council in the Annual Report read at the Annual General Meeting held on the 11th January, 1865, the Proceedings of the Society's meetings will henceforth be printed in parts separate from the Journal, to be issued monthly to all members and subscribers. They will be paged and indexed separately, so that at the close of each year, they may, at the option of members be bound up either in a small separate volume, or as a third division of the Journal.

The original papers which will henceforth form the Journal proper, will be classified under two heads, viz., Historical, Archæological, Numismatic, Philological and Literary on the one hand, and Natural and Physical Science on the other. With the latter will appear the Meteorological registers as heretofore. These two divisions will be paged and indexed separately, forming respectively parts I. and II. of the volume for the year. They will also be issued in separate numbers, alternately or simultaneously, according to the number and character of the communications awaiting publication.

The price of the Journal to subscribers will be the same as heretofore. The subscription to the Proceedings will be, to members, (additional copies,) 3 as. a number, or 2 Rs. 4 as. yearly, to non-members 4 as. a number or 3 Rs. yearly.

HENRY F. BLANFORD,
W. L. HEELEY,
Joint Secretaries.

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HENRY F. BLANFORD, }
W. L. HEELEY, } *Joint Secretaries.*

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR FEBRUARY, 1865.

The Monthly General Meeting of the Asiatic Society was held on the 1st instant.

A. Grote, Esq., President, in the chair.

The Proceedings of the last meeting were read and confirmed.

Presentations were announced.

1. From the Assistant Secretary to the Government of India, Foreign Department, a copy of the 6th vol. of a collection of Treaties, Engagements and Sunnuds relating to India and the neighbouring countries, compiled by Mr. C. U. Aitchison.

2. From A. C. L. Carlyle, Esq., a copy of a Telugu and Sanskrit Vocabulary.

3. From A. Grote, Esq., on the part of Cheboo Lama, 4 Náráyani copper coins from Bhootan.

4. From E. Blyth, Esq., a collection of skulls and skeletons of mammals and several bird skins.

5. From J. Daniel, Esq., a skin of a Flamingo.

6. From T. Moseley, Esq., a snake (Tropidonotus Stolatus) killed in Calcutta.

7. From Lieut.-Col. G. H. Saxton; instruments used in the Meriah sacrifices among the Khonds.

The following is an extract from the letter accompanying the presentation.

"They are doubtless the things used at the human sacrifices in the Khond country. A Meriah victim was rescued nearly 3 years ago in the hill country between the Vizagapatam District and Kalahandi of

the Central Provinces. I was present in the Khond Agency's Camp when the intended victim was brought in, and the fetters on her leg, (one leg had been opened by the rescuing party) were exactly the same as those I have sent, which I took myself from the ground, where these emblems and a rude altar shewed where the sacrifices had been made; the place was within a few miles (2 or 3) from that where the rescued woman I have alluded to was intended to be killed at sunrise of the morning the party sent surprised them. The iron representations of a bird were placed, fixed by a nail, on the pointed tops of two wooden posts erected on each side of the altar. It was in the middle of an open cultivated field fully in sight from the village close by, and I did not know how far my taking these things might be disapproved of, especially as there was of course great excitement on account of their intended new victim being rescued only 2 or 3 days before. I did not, however, then or afterwards, see or hear of any wish to resent the act.

"The Society's Museum, I fancy has not got anything of the kind, and if you think them worth placing therein kindly label them as I have described."

8. From Signor F. Lamouroux, the Italian Consul, on the part of the Commendator Negri Capo, a copy of Saggio Idrologico Sul Nilo by Ingre. Elia Lombardini.

9. From W. Oldham, Esq., Officiating Deputy Commissioner of Fyzabad, 20 copper coins, being part of a collection of 656 coins found in making excavations in the ancient city of Ajoodhia.

The following extract from a letter received from Major J. G. Gowan was read.

"I hope to be able within a few weeks to take a tour in the district surrounding Saugor in which are numerous ancient ruins and some inscriptions. * * * *

"My visit will probably embrace 'Erin' where there is a large boar on whose neck is an inscription, and a pillar of some height on which there is also an inscription; 'Pathari,' where there is one (if there are not more) inscription on a pillar, Oodeepoor where there is a temple with inscriptions. Major Cunningham visited Pathari, but I believe made only a hasty inspection, and perhaps the Society might wish for further information, if such should be the case, I should

much like to be informed to what points I should particularly direct my attention. The ruins at Pathari are very extensive but also very much buried under jungle and debris, and every year adds to the destruction. Lieut. Waterhouse, I believe, last year, sent to the Society photographs of a temple, near Pathari and also of the great Boar, (the Varaha Avatar) at 'Erin.'

"I noticed in the account given of the fossil, I discovered in the Mahadeva hills, at one of the meetings of the Society, that the words 'Mâchhi Katta' are translated 'fish bones.' Of course the words do not mean fish bones and the people of the country, as far as I could learn, had not any idea that there were bones at all, but thought that the figure of a fish had been cut, carved, or engraved on the stone by some one of ancient times, probably one of the Pândus."

The following gentlemen duly proposed at the last meeting were balloted for and elected ordinary members.

Moonshi Newal Kishore.
E. Willmot, Esq.
Philip H. Egerton, Esq., B. C. S.
S. H. Robinson, Esq.

The following gentleman was named for ballot as an ordinary member at the next meeting.

Major G. B. Malleson, proposed by Dr. J. Fayrer, seconded by H. F. Blanford, Esq.

The Council reported that they had nominated the following gentlemen to serve on the Committees for the ensuing year.

FINANCE.

Capt. H. Hyde.
Babu Rajendralal Mitra.
J. Geoghegan, Esq.

PHILOLOGY.

Capt. W. N. Lees.
Babu Rajendralal Mitra.
E. C. Bayley, Esq.
H. C. Sutherland, Esq.
J. Geoghegan, Esq.
H. Blochmann, Esq.
Moulavi Abdool Luteef Khan.

LIBRARY.

Capt. W. N. Lees.
Babu Rajendralal Mitra.
Dr. T. Anderson.
T. Oldham, Esq.
Col. C. Douglas.
W. S. Atkinson, Esq.
Dr. F. Stoliczka.

NATURAL HISTORY.

Dr. T. Anderson.
Dr. J. Fayrer.
Dr. T. C. Jerdon.
W. S. Atkinson, Esq.
W. Theobald, Esq., Jr.
Dr. S. B. Partridge.
Lieut. R. C. Beavan.
T. Oldham, Esq.
Babu Debendra Mullick.
Dr. F. Stoliczka.

METEOROLOGY AND PHYSICAL SCIENCE.

T. Oldham, Esq.
J. Obbard, Esq.
Col. R. Strachey.
Lieut.-Col. J. E. Gastrell.
Col. H. L. Thuillier.
Capt. T. G. Montgomerie.
Col. C. Douglas.

COIN COMMITTEE.

Capt. W. N. Lees.
Babu Rajendralal Mitra.
E. C. Bayley, Esq.
Col. C. S. Guthrie.

STATISTICAL COMMITTEE.

J. Strachey, Esq.
C. Boulnois, Esq.
H. C. Sutherland, Esq.
C. B. Garrett, Esq.

COMMITTEE OF PAPERS.

All the members of the Council.

Communications were received.

1. From the Under-Secretary to the Government of India, Public Works Department, a copy of Major General Cunningham's diary of occupations for the months of November and December, 1864.

2. From Babu Gopee Nath Sen, an abstract of the Hourly Meteorological Observations taken at the Surveyor General's Office in November last.

Rev. Mr. Jaeschke then having been introduced to the meeting, read a paper on the pronunciation of the Tibetan language of which the following is an abstract :—

After some introductory remarks on the fact that the Tibetan language, which has possessed an alphabet and a literature for about 1,200 years, shows at present a remarkable discrepancy between the mode of spelling and the pronunciation, the amount of this discrepancy was compared with the same in the French language, though the means of tracing the gradual changes which lie tolerably clearly before us in the case of this European language, are totally absent in that of the Tibetan. This latter presents however an interesting circumstance, viz. that the greater part of those consonants which are either extinct or considerably changed from their original sound in the pronunciation of Lhasa and Tibet proper, are still distinctly heard in the vulgar dialect of the remotest western districts, e. g. in the valley of Purig, but gradually vanish to the eastward, the degeneration from the original state reaching its highest pitch in the capital itself.

But as this circumstance still leaves the question of the historical periods *when* the different changes took place, unsolved, it may be worth mentioning that the Tibarskad or Bunan language, which is spoken in part of Kunáwar and in a small district of Lahul, and belongs neither to the Tibetan nor to the Indian family, but has adopted a great many Tibetan words, especially nouns and verbs, exhibits in the pronunciation of these a remarkable difference; a number of them preserving exactly the ancient sound and agreeing with the orthography established more than a thousand years ago,—whereas the same words uttered by the same people when speaking Tibetan, are pronounced

according to the present usage,—and another class being always sounded alike, viz. in accordance with the present pronunciation of Tibetan. This would seem to lead to the conjecture that two different influxes of Tibetan power and civilizing influence must have taken place, the former in the shape of the irruption of some Tibetan conqueror into a valley situated close to the Tibetan frontier, but inhabited by free and uncivilized mountaineers, at a period when the pronunciation was still in accordance with the spelling; the other much later, and perhaps more peaceful, carrying with it the religion of Buddhism and some ideas and institutions of Tibetan civilization of a higher order. If such an event or events could be met with in historical records, perhaps still to be discovered, it would throw much light on the history of the Tibetan language.

The President thanked Mr. Jaeschke for his interesting paper on a language of which so little is known as Tibetan. He repeated to Mr. Jaeschke personally the promise made to Dr. Cleghorn at the last meeting, that the Society would have very great pleasure in affording him any assistance in its power in his future researches, whether conducted in the E. or W. Himalaya.

A paper entitled "some account of ancient remains at Saidpúr and Bhitari," by the Rev. M. A. Sherring, L. L. B., and C. Horne, Esq., C. S., was then read by the Secretary.

An abstract of this paper follows:—

Saidpur and Bhitari are gererally spoken of as Saidpur Bhitari but are in reality distinct, Saidpur being a flourishing town of Hindu traders on the road between Benares and Ghazipur, from which Bhitari is several miles distant. In the former are three buildings used by the Mussulmans, one of which is modern; the other two are of undoubted antiquity. The first of these is a small domed building supported by 4 stone pillars, with square shafts and cruciform capitals —two of the pillars grooved to support a pierced stone railing. The projecting eaves-stones are cut to resemble wood work, as is frequently the case in ancient Buddhist structures. The second building is upheld by 34 pillars, namely, two corner groups of 6 each (amalgamated by stone slabs at an evidently modern period) 9 couples at intervals in the circumference, and a square of 4 in the centre. The roof has in its centre a primitive Buddhist ceiling, of 4 stones placed diagonally

on the architraves, and crowned by a flat stone ornamented with the lotus; and the great strength of the supports, with other indications, makes it probable that there were one or two additional stories. These buildings were probably separate *Chaityas* attached to a Vihar or monastery.

Bhitari is a long and nearly rectangular mound, on which are many smaller ones, giving it the appearance of a fort with towers. There is a spur on which an Imambara has been erected and excavations show that the mound on which it stands contains the foundations of an ancient edifice consisting of singularly large bricks.

Mr. Horne was commissioned by the North Western Government to make excavations in Bhitari, but his work being on a small scale, has not revealed any ancient relics. General Cunningham maintains that Bhitari belongs to the Gupta period, and is among the oldest Brahmanical remains known, but there are evident traces of Buddhist work. The Mussulman bridge over the Gángi is built with cut stones from edifices, which, from mason's marks &c., can be shown to belong to the Gupta period. The most noticeable relic in the enclosure is the column with the Gupta inscription, which is somewhat out of the perpendicular. Probably the Mussulmans endeavoured to throw it down, as they undoubtedly defaced the capital. In one mosque are 30 stone pillars taken from ancient and probably Buddhist erections. In a brick enclosure the authors discovered a rude statue of Buddha surrounded by his attendants, and with the usual *corona* embellished with Indian corn and leaves. Other sculptured stones are described by the authors, both Hindu and Buddhist; and portions of cloister pillars were found, rounded by the Hindus to serve as *Lingas* and afterwards used by the Mussulmans as head stones for their graves. There is another stone described by General Cunningham, to whose description the authors add some additional particulars of the sculpture confirming the date of the Gupta period given by him, but showing the workmanship to be of Buddhist and not Hindu origin. The inscription on the pillar shows that Skanda Gupta who erected it was a Tantric or Shaivite; but his father Kumára Gupta is described on brick inscription at Bhitari as a worshipper of "the Supreme Bhagavat," who is probably Buddha, especially as Kumára was a recorded benefactor of the great tope at Sanchi. Buddha Gupta the

successor of Skanda reverted to Buddhism. These changes explain the mixture of Hindu and Buddhist remains of the same period at Bhitari, and it also appears that the Shaivic and Vaisnavic sects of the former religion both prevailed there. The authors suggest the removal of the Monolith to Queen's College, Benares, where similar remains are collected. The paper is illustrated by photographs; and Mr. Sherring adds a later note describing the remains of mounds and terraces in the country west of Saidpur, which he says would amply repay investigation.

The paper being read, thanks were voted to its authors for their interesting communication.

Mr. Riddell then proposed that the Library be lighted on one or two nights in the week, say Saturday. The President said that the proposal should be considered by the Council at its next meeting.

In accordance with the announcement of the Council in the Annual Report read at the Annual General Meeting held on the 11th January, 1865, the Proceedings of the Society's meetings will henceforth be printed in parts separate from the Journal to be issued monthly to all members and subscribers. They will be paged and indexed separately, so that at the close of each year, they may, at the option of members be bound up either in a small separate volume, or as a third division of the Journal.

The original papers which will henceforth form the Journal proper, will be classified under two heads, viz., Historical, Archæological, Numismatic, Philolōgical and Literary on the one hand, and Natural and Physical Science on the other. With the latter will appear the Meteorological registers as heretofore. These two divisions will be paged and indexed separately, forming respectively parts I. and II. of the volume for the year. They will also be issued in separate numbers, alternately or simultaneously, according to the number and character of the communications awaiting publication.

The price of the Journal to subscribers will be the same as heretofore. The subscription to the Proceedings will be, to members, (additional copies,) 3 as. a number, or 2 Rs. 4 as. yearly, to non-members 4 as. a number or 3 Rs. yearly.

HENRY F. BLANFORD,
W. L. HEELEY,
} *Joint Secretaries.*

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR MARCH, 1865.

The Monthly General Meeting of the Society was held on the 1st Instant.

A. Grote, Esq., President in the chair.

The proceedings of the last meeting were read and confirmed.

The annual accounts of the Society for 1864, were submitted.

Presentations were announced—

1. From H. H. Locke, Esq., on the part of Mr. Safe, a number of copper coins.

2. From Col. C. S. Guthrie, skins of a male and a female *Argus gigantcus* and of *Polyplectron Hardwickii* from Singapore.

3. From J. A. Ferris, Esq., a python killed at Cossipore.

4. From Dr. F. Stoliczka, skins of *Carpodacus rodochrous* from Losus in Spiti, at the height of 14,000 ft. above the level of the sea, and of a new species of *Procarduelis* from the Parang Pass at the height of 18,500 ft. above the level of the sea.

A model (one of six) prepared under the direction of Mr. H. H. Locke, of the aerolite which fell at Shytal near Dacca on the 11th August, 1865, was exhibited.

On the proposition of the Secretary, a special vote of thanks to Mr. Locke was passed by the meeting.

The President announced to the meeting that Dr. John Anderson had been appointed by the Secretary of State for India, Curator of the future Imperial Museum, and that it was proposed by the Council to address Government without delay on the subject of the transfer of the collections.

A letter from Capt. E. Smyth, announcing his withdrawal from the Society, was recorded.

The following gentleman, duly proposed at the last meeting, was balloted for; —

Major G. B. Malleson.

The following gentlemen were named for ballot as ordinary members at the next meeting; —

Dr. J. M. Fleming, 29th P. N. I. proposed by Dr. J. Fayrer, seconded by Mr. Blanford.

R. Taylor, Esq., Civil Paymaster, Allahabad, proposed by the Hon'ble W. Muir, seconded by the President.

The Secretary read the following communication from Government on the subject of Meteorological Observations.

No. 1342.

Extract from the Proceedings of the Right Hon'ble the Governor-General of India in Council in the Military Department, under date the 27th of February, 1865.

Read again docket from the Home Department No. 3907, dated 31st July, 1862, transferring to the Military Department for disposal, a letter No. 197, dated the 20th June, 1862, from the Secretary to the Asiatic Society of Bengal, representing the great importance of properly conducted meteorological observations, the desire of the Council of the Society that Government should cooperate with it in the promotion of Meteorological research and science, and its readiness to submit a definite plan without loss of time, should the general views as expressed in the Secretary's letter and its enclosure be approved by Government.

Read letter from the Military Department No. 1137, dated 30th January, 1863, to the Secretary to the Asiatic Society intimating the readiness of Government to take into consideration the proposals which the Society might submit.

Read memorandum from the Public Works Department, No. 101C. dated 28th April, 1864, forwarding for information copy of a letter from Colonel Strachey, R. E. to the Secretary to the Asiatic Society on the subject.

Read letter from the Right Hon'ble the Secretary of State for India No. 199, of 30th May, 1863, forwarding copies of correspondence with the War Office regarding the systematic conduct and record of Meteorological Observations in India.

Read letter to the President, Sanitary Commission, No. 279, of 19th October, 1864, requesting that the Commission would take the subject

into consideration, and submit to Government a practical scheme for conducting and recording the observations throughout India.

Read letter to the Secretary to the Asiatic Society No. 280, of the same date, intimating that Government did not desire to trouble the Society further on the subject, but thanking it for the trouble it was believed to have taken in the matter.

Read letter No. 46, of the 2nd instant from the Secretary to the Asiatic Society, submitting the report of the Society on the question.

OBSERVATIONS.

The Government of India gladly accepted the Asiatic Society's offer made in June, 1862, but the unexpected delay which subsequently intervened, led to the belief that unforeseen difficulties had prevented its coming to any definite conclusion as to details, so soon as it had at first anticipated. This, and the communication from the Secretary of State above referred to, led to the reference of the subject to the Sanitary Commission.

2nd. But the Society has rightly judged that any suggestions it might make would be most welcome; and the Governor-General in Council has no doubt that the scheme it has submitted, which will receive the most careful consideration, will greatly assist the Government in arriving at a satisfactory decision.

3rd. Meanwhile, however, the Survey Department, which has heretofore been nearly alone in conducting such observations as those referred to, has been transferred to the control of the Home Department, which has also, it is believed, some questions of a similar kind submitted by the Chamber of Commerce, under its consideration. His Excellency in Council considers therefore that the general question can most satisfactorily be dealt with in that Department.

Ordered that a copy of the foregoing and of the papers referred to, be forwarded to the Home Department for consideration and orders, with an intimation that a copy of the Report of the Sanitary Commission will be also furnished when received.

No. 1343.

Ordered also that a copy of the foregoing be transmitted to the Secretary of the Asiatic Society, for the Society's information.

Sd. H. W. NORMAN, COL.,
Secretary to Government of India.

The following extract of a letter from Mr. Oldham, offered as a correction of his remarks reported in the Proceedings for December 1864, was read.

"Mr. Oldham said. 'As I was not at the last meeting of the Society, the proceedings of which have just been confirmed, I would take this opportunity of correcting a statement then made. I am represented to have said, in some discussion relative to the Spiti Fossils last year, that Dr. Gerard's collection of those fossils which was sent to Dr. Buckland had been despatched before this Society had received its collection from the same place, and from the same collection. This was not what I stated. What I said was, that the collection sent to Dr. Buckland by the Gerards had been despatched and received by him, before the collection sent by the Society, or the Society's collection had been despatched and received (not by the Society in Calcutta but) in London. There were two collections of these Spiti Fossils sent home, one by Dr. Gerard or Capt. Gerard, to Dr. Buckland which collection is now in the Oxford Museum, and a second by this Society, not to Dr. Buckland but to Mr. Sowerby, which collection was returned and is now in this Society's Cabinets. The two were quite independent, sent by different parties to different persons, and with different objects: and what I said was that Dr. Gerard's collection had been received in England months before the Society's collection had been received. The note from Professor Phillips, which is expressed with his characteristic caution, so entirely leaves the only point at issue untouched, that I will not occupy the Society's time by any remarks upon it.'"

Also——

"Mr. Oldham replied [to Mr. Blanford's suggestion, *see Proceedings, December* 1864,] that he declined to give these dates because as dates of entirely independent facts, they had nothing whatever to do with the points at issue and would only complicate the question."

The following letter from Professor Agassiz with the resolution of the Council thereon was then read.

Cambridge, December 18th, 1864.

DEAR SIR,—A great problem, bearing upon the history of the progress of civilization, still awaits a solution at the hands of the Natu-

alist. Where historical documents are wanting, the facts of nature may guide the student, and in the case of the origin of domesticated animals, we have hardly any trustworthy tradition; though, wild animals closely related to them are found all the world over. It has therefore occurred to me that a careful comparison of these wild animals with the various breeds in a state of domesticity might throw some light upon the first seats of agriculture, and human civilization. But the materials for these comparisons are wanting, and I now take the liberty of appealing to those interested in such matters, to help me in collecting the data necessary to answer this question. I would begin with the Cattle, as of all our domesticated animals, it is most intimately connected with the progress of human culture.

At one time it was supposed that our ox was derived from the wild bulls mentioned by the Roman writers as living in Germany and Gaul, some of which are still preserved in Lithuania. Afterwards, it was supposed to be derived from a species no longer living in Europe, but found fossil among the most recent geological deposits. These suppositions cannot stand the test of a close criticism, and it now becomes necessary to look further East for its probable origin, especially since philology and history point to India, as the primeval seat of civilization. But is any of the wild bulls of Asia identical in species with our domestic cattle, and are the domestic cattle of Asia of the same species as ours? Skeletons of all these animals carefully compared can alone furnish the answer, and thus far these exist in no museum in the world. Six different species of wild bulls are mentioned in various works as found in Asia, all of which should be collected before a comparison can be instituted between them. These are—

1st. The Indian Buffalo, which is said to be common in the East Indies generally, and upon the islands adjoining, has been extensively tamed, and has even been imported into Southern Europe. The Arnee is supposed to be only a wild variety of the same; whether the Manila buffalo is of the same species or not, I have been unable to ascertain.

2nd. The Yak, which is found in Tibet, Northern China and Mongolia and ascends the slopes of the Himalaya to a height of from 10 to 17,000 feet above the level of the Sea. The Yak is tamed in Tibet and Central Asia.

3rd. The Gaur, which lives in the mountain forests of Central India and is only known in a wild state.

4th. The Gayal found from Hindustan to Cochin China, in the low lands, especially in the jungle, and often called the jungle ox, is tamed by the Hindoos.

5th. The Bantong common in Java, only known in the wild state, and said to occur also upon the other Sunda islands especially upon Sumatra.

6th. The Zebu or Indian Ox, a small species with a hump on its back, somewhat like the Camel, and held in great veneration in some parts of India. The Zebu is also domesticated, and there are many other domesticated breeds incidentally mentioned by travellers as occurring in Asia, but no one has been carefully described, nor have their skeletons been preserved for study. Moreover, several of the wild bulls of Asia, such as the Arnee, the Yak, the Gayal, the Bantong are said to produce cross-breeds with the domesticated breeds imported into the Colonies by the European settlers.

All the domesticated breeds of Asia, and the cross-breeds between them and the native wild species ought therefore to be included in a collection fit to serve as a basis for such investigations, and not only should the breeds of the East Indies be included, but also those of Birmah, Cochin China, China, Japan and Australia as well as those of the intervening islands, in order if possible to trace the gradual migration of all these breeds over the Eastern continents.

In every instance it would be desirable to obtain a complete skeleton of a Bull, and of a Cow in their full grown condition, and also of a Calf, such skeletons are easily made, all that would be necessary to do on the spot where they are secured, would be to cut off the meat roughly from the bones, after removing the insides, and allow the carcase to dry until it is no longer offensive. Such carcasses can easily be cleaned and prepared for mounting, even years after they have been put up in this imperfect way. This would also apply to the skeletons of any other animals which might incidentally be obtained. The skeletons of horses, donkeys, dogs, sheep, goats, pigs, fowls, pigeons, ducks, geese, &c. would equally contribute to the solution of the question of the rise and progress of civilization among men. For the Eastern nations the camel, dromedary and elephant ought to be added. Whenever it is not convenient to secure the entire skeletons, the skulls should be preserved, or at least the horns of the cattle.

To pack such skeletons in the smallest compass, the head should be separated from the neck, the four limbs from the trunk and the body divided in two, behind the ribs; and the smaller parts may be wrapped up between the larger ones. In this way, the whole skeleton may be put up in a comparatively small box.

If you could contribute even a mite toward securing the means of carrying out this plan, you would not only greatly oblige me, but really contribute to the solution of a most interesting scientific problem, and any specimen you may be able to send will be put up in the Museum of Comparative Zoology in Cambridge, as your gift, and gratefully acknowledged.

Notices of the habits of the wild species would be very desirable, also any remarks concerning the uses to which the domestic breeds are put, the amount of milk they give, the size and weight to which they grow in different countries, the age they reach when they first calve, the length of gestation, and how long they continue to bring forth young, &c. &c.

Yours very truly,
(Signed) L. Agassiz.

Dear Sir,—In transmitting to you the above memorandum, at the suggestion of my friend, T. G. Cary, I do not expect that you can personally do much towards fostering the objects I have in view; but I hope you may do me the favour to inquire in your part of the world how I can arrive at the desired result. There is in Calcutta a learned Society of long standing, the publications of which have done great service to the cause of science, the "Asiatic Society of Bengal," the members of which I only know by name and from their papers. If you could bring me into direct relations with the most active of these gentlemen and speak to them of my wishes, or induce the Curator of their Museum to enter into a system of exchanges with our Museum and show the programme now sent you to any of them who takes an interest in kindred matters, you would have done all I could wish for.

Very truly yours,
(Signed) L. Agassiz.

W. Whitney, Esq.
Calcutta.

"Resolved that copies of this letter be sent to the Secretaries of the Lahore and Nagpore Societies, also to Col. Phayre, Col. Dalton Capt. Reid, Deputy Commissioner, Darjeeling, and other gentlemen requesting them to aid the Society in providing Professor Agassiz with the specimens of the wild and chief domesticated races of cattle."

Bábu Rájendralál Mitra drew the attention of the meeting to the apparent community of origin of the words "*Amen*" and "*Om*."

He said: "While examining some inscriptions in Tibetan characters lately brought from the Buxa Dooar, my attention was directed to the word *Om* as occurring at the end of prayers and invocations to minor divinities, genii and hobgoblins. There it could not mean the triune divinity, the creator, preserver and destroyer of the universe, the only sense in which it is used in modern Sanskrit. I adopted, therefore, its old Vedic meaning of a particle of assent or 'yes,' in which sense it occurs in the Chhándogya Upanishad where it is described as an 'injunctive term;' the most obvious rendering of it in English, it occurred to me, was the Biblical 'Amen.' Professor Wilson took the word in the same sense, and after describing it in his Dictionary as a particle of assent, gave, within brackets, the words *verily* and *amen*. Böhtlingk and Roth in their *Wörterbuch* offer the same conjecture, quoting the Greek *αμην*. According to modern Hindu theologians and lexicographers the word *Om* is a compound of the letters *a*, *u* and *m*, emblematic of the threefold power of the divinity; but in the Vedas this is nowhere recognised, and the *Unádi Sútras* derive the word from the verbal root *av* to 'protect,' 'support,' 'affirm,' added to the affix *man*, and hence it means either 'the great Protector,' God, or 'be it affirmed.' The *v* of the root is changed into *u** which with the initial *a* and the affix makes *Oman*, which is as near as possible to the English *Amen* both in sound and sense. Nor is the modern meaning of the Sanskrit *Om* wanting in *Amen;* for the Rabbis of old, according to Dr. Johnson, took it to be a compound of the initials of three words signifying 'God as a faithful King.' The simplest form in which I can find the word in Hebrew is אָמַן *A'man*,' 'he is firm,' or 'makes firm,' 'trustworthy,' 'true,' 'certain,' and in this sense it occurs repeatedly in the Old Testament as well as in the New. In the latter, it also occurs in a slightly different sense as in *αμην αμην*, *λεγω υμιν*, 'Verily,

* Avateshṭi lopas'cha, 1-140.—Aufrecht's Unádi Sútra.

verily, I say unto you.' The Arabic language has the same word, and it occurs in the different forms of *Amín*, *ámánet*, *Imán*, &c. The Rev. J. Wenger and Professor K. M. Banerjea inform me that one meaning of *A'man* is 'to nourish,' which is the same as that of the Sanskrit root *ab*. There is also a Hebrew root of the sound of *ab*, meaning 'to protect' or 'generate,' which gives the word *abba* 'father.' There is likewise an *am* meaning 'mother.' But I am not sufficiently conversant with the Hebrew language to be able to say whether either of these or some other allied root forms the basis of *A'man*. Judging from the fact of the most ancient roots of the Hebrew being biliteral, I am induced to believe that originally the root of *A'men*, whatever it was, was a biliteral one. It thence follows that the two words *Om* and *Amen* were at one time not only alike in meaning and very nearly in sound, but they originated from roots of the same character and meaning. Further, both the Hebrews and the Hindus attach a mysterious importance to their respective *A'men* and *Om*, and use them in reference to the Godhead and in connexion with their religions. The force of these facts combined leads me to the conclusion that the two are the same or dialectic varieties of the same word, which the Hindus and the Hebrews either had in common before they separated into the two races, or which one of them borrowed from the other. I am of opinion that the modern Bengali *huñ*, for 'yes' is a Cockneyism of *Om* produced by an aspiration of the initial vowel, but whether so or not, certain it is that the mystic particle *hum* of *Om mani padma hum* of the Tibetans owes its origin to a local change of that kind."

With reference to the above, Mr. Blochmann made the following observations.

"I think that in the Hebrew word *ámén*, the first syllable *am* is the real root and the final *n* the modifying letter. The letter *n* is often used in Shemitic languages as an accessory consonant.

"The syllable *am* ם seems to be a softened form for *kam* קם, between which two roots we have the intermediate form קמ. The *k* sound in the beginning of words is often softened or even thrown off altogether as in Clodewig and Ludovicus, the English 'like' and the German 'gleich.' Now the combination of *k* and *m* would appear to mean originally 'to collect,' 'to heap up,' cf. ἅμα together, the Latin *cum*, *cumulus* a heap, &c. From the idea of heaping up we get the ideas—

1. "Of *erectness*. For whatever is heaped up stands firmly. Hence the Shemitic *aman* to prop, to establish. Compare also *cumulus*, *culmen*, *almus*, عفل to swell, &c. &c.

2. "Of *covering* or *hiding*, as كمن, cf. كفن to roll up, كفر to cover, عفر the (covering) dust, عفا to cover. The ع changes again so often to *alif*, hence in Hebrew *éfer*, ashes.

"In other languages also the ideas of erectness and collecting lead to the notion of *trusting* or *believing*, of Germ. *glauben*, to believe, *klauben*, to scrape together, to collect, whilst we have in Latin *firmus*, *i. e.* erect and affirmare.

"The Sanscrit '*om*' may have had originally a final *n* and also, as Bábu Rájendralála Mitra stated, the meaning of an affirmative particle. If so, the syllable *om* alone would express this fully, so that we need not lay a particular stress on the final *n* in *amen* and the *n* of the original form of the mysterious *om*.

"That the final *n* in امن and the Hebrew *amen* is merely *accessory* may also be seen from the verb امر, where we have the same syllable ام and an *r* as the modifying consonant.

"For the original meaning of امر, which our dictionaries have not yet explained, is 'to establish,' from which we readily get the meanings to affirm, to declare, to command and (in Hebrew) to speak.

"I may also add that the Hebrews attached no mysterious sense to the word ámén."

Communications were announced—

1. From the Under-Secretary to the Government of India, Public Works Department, the concluding portion of the Report of the Archæological Surveyor to Government for the season, 1862-63.

2. From the Same, Diary of Occupations of the Archæological Surveyor for the month of January, 1865.

3. From Bábu Gopinath Sen, Abstract of the Hourly Meteorological Observations taken at the Surveyor General's Office in December, 1864.

Mr. Heeley read some extracts from General Cunningham's Report of the Archæological Survey for 1862 63.

ABSTRACT STATEMENT

OF

RECEIPTS AND DISBURSEMENTS

OF THE

ASIATIC SOCIETY,

FOR

THE YEAR 1864.

STATEMENT

Abstract of the Cash Account

RECEIPTS.				1864.			1863.		
ADMISSION FEES.									
Received from New Members, Rs.	1,600	0	0	1,600	0	0	1,792	0	0
CONTRIBUTIONS.									
Received from Members, ...	8,389	10	0	8,389	10	0	7,138	2	9
JOURNAL.									
Sale proceeds of, and Subscriptions to the Journal of the Asiatic Society, ...	602	15	0						
Refund of Postage Stamps, ...	4	2	0						
Ditto of Freight, ...	2	4	0						
Discount on Postage Stamps, ...	0	15	0	610	4	0	611	5	3
LIBRARY.									
Sale proceeds of Books, ...	282	4	0						
Refund of Freight, ...	18	0	0	300	4	0	388	12	0
MUSEUM.									
Received from the General Treasury at 500 Rs. per month, ...	6,000	0	0						
Savings of salary, ...	100	10	6						
Refund of the amount from Government, advanced to Mr. C. Swaries, Taxidermist, ...	400	9	9						
Ditto ditto from Mr. C. Swaries,	10	14	0						
Ditto of Contingent Charges, ...	3	9	3	6,515	11	6	6,031	12	6
SECRETARY'S OFFICE.									
Sale of Postage Stamps, ...	2	8	0						
Discount on ditto, ...	3	4	9						
Refund of Postage Stamps, ...	8	12	0						
Ditto of Packing Charges, ...	0	8	0						
Saving of Salary, ...	1	0	0	16	0	9	10	11	9
VESTED FUND.									
Interest on Government Securities received from the Bank of Bengal,	337	8	0						
Income Tax on the Anticipation Interest on Government Securities, ...	5	3	11						
Refund of Income Tax, ...	2	1	0	344	12	11	5,494	1	8
GENERAL ESTABLISHMENT.									
Fine, ...	4	0	0	4	0	0			
Carried over, Rs.				17,780	11	2			

No. 1.

of the Asiatic Society for 1864.

DISBURSEMENTS.				1864.			1863.		
JOURNAL.									
Freight, ...	Rs.	102	10	0					
Printing Charges, ...		1,772	7	0					
Commission on Sale of Books, ...		10	8	6					
Purchase of Postage Stamps, ...		57	13	0					
Packing Charges, ...		29	2	0					
Drawing and Engraving Charges,		140	2	0					
Lithographing Charges, ...		122	0	0					
Photographing Charges, ...		14	6	6					
Petty Charges, ...		2	2	0					
Purchase of Journal of Asiatic Society, ...		11	0	0					
Ditto of a Blank Book, ...		2	0	0					
					2,264	3	0	3,596	15	4
LIBRARY.									
Salary of the Librarian,		815	8	0					
Establishment, ...		84	0	0					
Charges for Labelling Photographic Album, ...		12	10	8					
Purchase of Books, ...		106	12	0					
Book Binding, ...		235	8	0					
Books Cleaning, ...		39	8	0					
Preparing a Catalogue,		60	0	0					
Commission on Sale of Books,		25	0	9					
Two Blank Books, ...		7	0	0					
Petty Charges, ...		11	1	3					
					1,397	0	8	1,857	14	6
MUSEUM.									
Salary of the Curator, ...		1,572	12	0					
Ditto ditto Sub-Curator, ...		1,200	0	0					
Establishment, ...		943	12	9					
Extra Taxidermist's Salary, ...		765	10	6					
Contingent Charges, ...		1,033	5	0					
Income Tax on Curator's Salary,		90	0	0					
A Teak wood Glass Case, ...		300	0	0					
Repairing a rattan mat, ...		20	8	0					
A new mat, ...		10	14	0					
Covering the floor of the Skeleton and Reptile rooms with Zinc Sheets, ...		102	0	0					
Repairing the Cases of the Museum, ...		68	4	0					
Freight, ...		98	10	0					
Carried over,	Rs.	6,205	12	3	3,661	3	8			

RECEIPTS.

				Brought over, Rs.	17,780	11 2
COIN FUND.						
Sale proceeds of Silver Coins, ...	33	0	0		33	0 0
HON'BLE A. EDEN.						
Refund of the amount paid him,...	1	1	9		1	1 9
LIEUT.-COL. J. C. HAUGHTON.						
Refund of the amount paid him,...	2	12	0		2	12 0
MR. J. SWABIES.						
Refund of the amount paid him,	10	4	6		10	4 6
A. C. L. CARLYLE, ESQ.						
Refund in part of the amount advanced him for Contingent Expenses, &c. for the Museum, ...	274	12	9			
Ditto ditto on his Salary, ...	5	8	0		280	4 9
POTIT PABUN MISTRY.						
Refund of the amount advanced him for preparing a case for Natural History Specimens, ...	50	0	0		50	0 0
A. GROTE, ESQ.						
Refund of the amount paid him,...	5	10	0		5	10 0
BALANCE OF 1863.						
Bank of Bengal, ...	5,609	13	1			
Cash in hand, ...	104	6	3		5,714	3 4
				Carried over, Rs.	23,877	15 6

DISBURSEMENTS.

Brought over, Rs.	6,205	12	3	3,661	3	8			
Purchase of a Oval white stand,...	1	4	0						
Ditto 39 Oval gilt Brackets, ...	100	8	0						
				6,307	8	3	8,469	3	11
SECRETARY'S OFFICE.									
General Establishment, ..	780	0	0						
Secretary's Office Establishment,	1,023	0	0						
Purchase of Postage Stamps, ..	137	7	6						
Ditto three Blank Books, ..	5	12	0						
Ditto a Blank Ledger Book, ...	15	12	0						
Ditto a Sheet Almanac for 1864,	1	0	0						
Ditto of a Postage Scale and Weight, ..	11	0	0						
Stationery, ..	124	4	6						
Bearing Postage, ..	6	1	9						
Insufficient Postage,	3	15	9						
Lithographing and Printing Charges, ...	142	0	0						
Extra Writer's Salary,	57	0	0						
Engraving 2 Brass Seals,	6	0	0						
Petty Charges, ...	7	12	3						
				2,321	1	9	2,047	1	6
VESTED FUND.									
Purchase of new 5 per Cent. Govt. Security, ...	4,000	0	0						
Ditto ditto 5½ per Cent. ditto, ...	2,500	0	0						
Interest on Government Securities,	174	9	11						
Premium on ditto, ...	367	8	0						
Commission on Purchase of Govt. Securities, ...	16	4	0						
Ditto to the Bank of Bengal for drawing Interest on the Govt. Securities, ...	0	13	5						
Income Tax on the Interest on the ditto, ...	2	1	0						
Fee for renewing Govt. Securities,	2	0	0						
				7,063	4	4	15	14	4
COIN FUND.									
Purchase of Coins, ...	365	2	11						
Preparing a wooden Cabinet with 30 Drawers, ...	40	14	0						
Petty Charges, ...	0	2	0						
				406	2	11	6	6	6
BUILDING.									
Assessment, ...	390	0	0						
Ditto for Lighting, ...	78	0	0						
Repairing, ...	348	11	3						
				816	11	3	425	12	3
GOVERNMENT.									
Freight on 2 Cases of Mahabhashya sent to London, ...	32	0	0						
Transit Charges, ...	5	11	0						
				37	11	0			
Carried over, Rs.				20,613	11	2			

RECEIPTS.

Brought over, Rs. 23,877 15 6

Carried over, Rs. 23,877 15 6

DISBURSEMENTS.

Brought over, ...				Rs.	20,613	11	2		
MISCELLANEOUS.									
Advertising Charges,		25	8	0					
Meeting Charges, ...		159	1	0					
Salary of a Mally, ...		57	0	0					
Purchase of Receipt Stamps,		10	0	0					
Printing Charges, ...		36	0	0					
Purchase of 2 Small Gilt frames with glasses,		8	0	0					
Repairing a Punkha in the Meeting room,		45	10	6					
Repairing Lamps,		7	8	0					
Fee to the Bank of Bengal for Stamping Cheques,		1	9	0					
Petty Charges, ...		37	3	0					
					387	7	6	350	15 0
MESSRS. WILLIAMS AND NORGATE.									
Paid Freight for sending a parcel,		2	0	0					
Ditto to the Bank of Bengal as per their order, £97,3*s*.7*d*. at 1*s*. 11½*d*.		992	7	6					
					994	7	6	2,003	0 0
DR. DILLON.									
Paid Packing Charges for his Munnipur Beetles, ...		2	0	0					
					2	0	0		
A. M. VERCHERE, ESQ.									
Paid Banghee Expenses for sending Library Books, ...		1	14	0					
					1	14	0		
HON'BLE A. EDEN.									
Paid in excess of the amount advanced to Mr. C. Swaries, ...		1	1	9					
					1	1	9		
GOVERNMENT NORTH-WESTERN PROVINCES.									
Paid Railway Freight for sending Journal for 1864, ...		5	6	0					
					5	6	0		
MR. J. SWARIES.									
Balance due by him for Purchase of Packing boxes and fishes for the Museum, ...		10	4	6					
					10	4	6		
E. B. COWELL, ESQ.									
Paid Messrs. Thacker, Spink & Co. for 100 Glazed Cards, ...		4	0	0					
Ditto Freight for sending 2 Parcels of Books to London, ...		23	0	0					
					27	0	0		
LIEUT.-COL. J. C. HAUGHTON.									
Paid Bearing Banghee on a parcel of Journal, Vol. VIII. from Cooch Behar, ...		2	12	0					
					2	12	0		
Carried over, Rs.					22,046	0	5		

RECEIPTS.

Brought over, Rs. 23,877 15 6

Rs. 23,877 15 6

Examined.

LALGOPAL DUTT,
Assistant Secretary

The 31st December, 1864.
Asiatic Society's Rooms.

DISBURSEMENTS,

Brought over, Rs.				22,046	0	5
A. C. L. Carlyle, Esq.						
Paid him as an advance on the Contingent Expenses for the Museum, ...	359	0	0			
Ditto ditto on his Salary, ...	55	8	0			
				414	8	0
A. Grote, Esq.						
Paid for Arseniated Soap, ...	2	10	0			
Ditto for Banghee Expenses for sending ditto, ...	3	0	0			
				5	10	0
H. C. Sutherland, Esq.						
Paid Freight and Cooly-hire for sending Library Books, ...	1	2	6			
				1	2	6
Potit Pabun Mistry.						
Paid him as an advance for preparing a Case for Natural History Specimens, ...	100	0	0			
				100	0	0
Major-Genl. A. Cunningham.						
Paid Packing Charges for sending Library Books, ...	0	6	6			
				0	6	6
Balance.						
Bank of Bengal, ...	1,304	5	6			
Cash in hand, ...	5	14	7			
				1,310	4	1
			Rs.	23,877	15	6

W. L. Heeley,
Secretary Asiatic Society.

STATEMENT

Abstract of the

RECEIPTS.

				1864.			1863.		
ORIENTAL PUBLICATIONS.									
Received by Sale of Bibliotheca Indica,	2,023	6	3						
Ditto by Subscription to ditto, ...	139	11	0						
Ditto by Sale of White Yajur Veda, ...	38	0	0						
Refund of Postage Stamps, ...	8	15	3						
Ditto of Freight, ...	0	8	0						
				2,210	8	6	1,928	1	0
GOVERNMENT ALLOWANCE.									
Received from the General Treasury at 500 Rs. per month, 12 months, ...	6,000	0	0						
				6,000	0	0	6,000	0	0
VESTED FUND.									
Received Interest on the Government Securities from the Bank of Bengal,	442	8	0						
Ditto Income Tax on the Anticipation Interest on Govt. Securities, ...	6	15	9						
Refund of Income Tax paid on the Interest on Government Securities,	2	13	0						
				452	4	9	10,302	1	9
R. T. H. GRIFFITH, ESQ.									
Refund of Freight paid for sending a parcel of Bib. Indica,	3	3	0						
				3	3	0			
REV. F. KITTEL.									
Received from him on Deposit,	3	9	0						
				3	9	0			
PUNDIT AJOODHIANATH.									
Refund of Freight paid for sending Bib. Indica,	3	13	0						
				3	13	0			
CUSTODY OF ORIENTAL WORKS,									
Saving of Salary, ...	1	14	0						
				1	14	0	2	8	0
BALANCE OF 1863.									
In the Bank of Bengal,	9,451	4	1						
Cash in hand,	4	13	11						
				9,456	2	0			

Carried over, Rs. 18,131 6 3

No. 2.

Oriental Fund for 1864,

DISBURSEMENTS.				1864.			1863.		
ORIENTAL PUBLICATIONS.									
Commission on the Sale of Books,	Rs.	235	11	6					
Freight, ...		94	8	0					
Packing Charges, ...		33	2	9					
Purchase of Postage Stamps, ...		10	14	0					
Petty Charges, ...		7	11	9					
					382	0	0	307	4	6
VESTED FUND.									
Purchase of new 5 per Cent. Government Security, ...		5,000	0	0					
Ditto ditto 5½ per Cent. ditto ditto,		3,500	0	0					
Interest on the Government Securities,		232	14	1					
Premium on ditto ditto,		495	0	0					
Commission on Purchase of ditto ditto,		21	4	0					
Ditto to the Bank of Bengal for drawing Interest on Govt. Securities, ...		1	1	7					
Income Tax on the Interest on ditto ditto, ...		2	13	0					
Fee for renewing Government Securities, ...		2	0	0					
					9,255	0	8	31	5	10
CUSTODY OF ORIENTAL WORKS.									
Salary of the Librarian, ...		349	8	0					
Establishment, ...		72	0	0					
Salary of Duftory, ...		92	2	0					
Book Binding, ...		289	6	0					
Books Cleaning, ...		82	0	0					
Two Blank Books, ...		8	8	0					
Fee paid to the Bank of Bengal for Stamping Cheques, ...		1	9	0					
Petty Charges, ...		5	15	6					
					901	0	6	800	13	3
LIBRARY.									
Purchase of Books,		23	0	0					
					23	0	0	98	6	0
COPYING MSS.									
Copying Charges,		14	10	6					
					14	10	6	44	5	0
R. T. H. GRIFFITH, ESQ.									
Paid Freight for sending a parcel of Bibl. Indica,		3	3	0					
					3	3	0			
PUNDIT AJOODHIANATH.									
Paid Freight for sending a parcel of Bibl. Indica,		3	13	0					
					3	13	0			
REV. F. FOULKES.									
Paid Freight for sending a parcel of Bibl. Indica,		2	8	9					
					2	8	9			
Carried over,	Rs.				10,585	4	5			

RECEIPTS.

Brought over, Rs. 18,131 6 3

Rs. 18,131 6 3

Examined.
LALGOPAL DUTT,
Assistant Secretary.

Correct.
R. MITRA.

The 31st December, 1864.
ASIATIC SOCIETY'S ROOMS.

DISBURSEMENTS.

				Brought over, Rs.			10,585	4	5	
Aswaláyana Srauta Sutras.										
Editing Charges,	...	...		288	0	0				
							288	0	0	
Biographical Dictionary.										
Paid Capt. W. N. Lees, as advance for printing ditto,	...	...		900	0	0				
							900	0	0	
Tarikhi Badaoni.										
Paid Capt. W. N. Lees, as advance for printing ditto,	...	...		300	0	0				
Ditto Editing and Printing Charges,	...			584	0	0				
							884	0	0	
Sanhita of the Black Yajur Veda.										
Editing Charges,	...	...		240	0	0				
Printing ditto,	...	...		448	0	0				
							688	0	0	508	0	0
Tabakáti Nasiri.										
Editing and Printing Charges,	...			838	10	0				
							838	10	0	584	0	0
Mimánsa Darsana.										
Editing Charges,	...	...		96	0	0				
Printing ditto,	...	...		253	0	0				
							349	0	0	
Maitri Upanishad.										
Editing Charges,	...	...		30	0	0				
							30	0	0	
Wis O Ramin.										
Editing and Printing Charges,	...			1,168	0	0				
							1,168	0	0	
Sankara Digvijaya.										
Printing Charges,	...	...		126	4	0				
							126	4	0	
Taittiríya Bráhmana of the Black Yajurveda.										
Editing Charges,	...	...		144	0	0				
Printing ditto,	...	...		224	0	0				
							368	0	0	2,905	0	0
Brihat Sanhita.										
Printing Charges,	...	...		228	0	0				
							228	0	0	
Kámandaki.										
Editing Charges,	...	...		96	0	0				
							96	0	0	129	10	0
Taittiríya Áranyaka of the Black Yajurveda										
Editing Charges,	...	...		144	0	0				
							144	0	0	
Balance.										
In the Bank of Bengal,	...	...	1,424	10	2					
Cash in hand,	...	...	13	9	8					
							1,438	3	10	
					Rs.		18,131	6	3	

W. L. Heeley,
Secretary, Asiatic Society.

STATEMENT, No. 3.

Shewing the Assets and Liabilities of the Asiatic Society at the close of 1864.

ASSETS.		1864.			1863.		
CASH.							
In the Bank of Bengal,	Rs.	1,304	5	6	5,609	13	1
Cash in hand, ...	...	5	14	7	104	6	3
Government Securities,	...	6.500	0	0	0	0	0
	Rs.	7,810	4	1	5,714	3	4
OUTSTANDINGS.							
Contributions, ...	Rs.	5811	14	11	5,250	1	11
Admission fees, ...	...	416	0	0	320	0	0
Library, Sale of Books,	...	445	2	0	373	0	0
Journal Subscription,	...	538	2	0	526	4	8
Ditto Sale of, ...	...	284	14	3	39	14	3
Govt. Allowance for Dec., 1864,		500	0	0	500	0	0
	Rs.	7,996	1	2	7,009	4	10

LIABILITIES.		1864.			1863.		
Hon'ble Sir. J. W. Colvile, Kt.,	Rs.	276	8	0	276	8	0
J. W. Laidlay, Esq.,	...	418	7	4	418	7	4
Salary, Establishment and Contingent Charges,	...	755	0	0	500	0	0
Subscription to the Oriental Translation Fund,	...	525	0	0	420	0	0
Printing Journal, about,	...	1,260	8	0	650	0	0
Bird Catalogue, Binding,	...	42	4	0	42	4	0
	Rs.	3,277	11	4	2,307	3	4

Examined

LALGOPAL DUTT,
Assistant Secretary.

W. L. HEELEY,
Secretary, Asiatic Society.

The 31*st December*, 1864.
ASIATIC SOCIETY'S ROOMS.

Correct

RAJENDRA LAL MITRA,
Member, Finance Committee.

STATEMENT, No. 4.

Shewing the Assets and Liabilities of the Oriental Publication Fund at the close of 1864.

ASSETS.		1864.			1863.		
In the Bank of Bengal,	Rs.	1,424	10	2	9,451	4	1
Cash in hand, ...		13	9	8	4	3	11
Government Securities, ...		8,500	0	0	0	0	0
Bibliotheca Indica, Sale and Subscription of,... ...		1,432	12	9	749	7	6
Capt. W. N. Lees, advance for printing Biographical Dictionary &c., ...		1,200	0	0	0	0	0
Government Allowance for December, 1864, ...		500	0	0	500	0	0
	Rs.	13,071	0	7	10,704	15	6

LIABILITIES.		1864.			1863.		
Deposits, ...	Rs.	146	13	0	171	13	0
Establishment and Contingent Charges for Dec., ...		50	0	0	50	0	0
Editing Charges due for works not yet complete, about, ...		1,600	0	0	1,600	0	0
Printing Charges, say, ...		3,601	2	0	740	0	0
Capt. W. N. Lees, printing and editing Charges, say, ...		1,192	0	0	0	0	0
	Rs.	6,589	15	0	2,561	13	0

Examined

LALGOPAL DUTT,
Assistant Secretary.

W. L. HEELEY,
Secretary, Asiatic Society.

Correct

RAJENDRA LAL MITRA.

ASIATIC SOCIETY'S ROOMS,
The 31*st December*, 1864.

In accordance with the announcement of the Council in the Annual Report read at the Annual General Meeting held on the 11th January, 1865, the Proceedings of the Society's meetings will henceforth be printed in parts separate from the Journal, to be issued monthly to all members and subscribers. They will be paged and indexed separately, so that at the close of each year, they may, at the option of members, be bound up either in a small separate volume, or as a third division of the Journal.

The original papers which will henceforth form the Journal proper, will be classified under two heads, viz., Historical, Archæological, Numismatic, Philological and Literary on the one hand, and Natural and Physical Science on the other. With the latter will appear the Meteorological registers as heretofore. These two divisions will be paged and indexed separately, forming respectively parts I. and II. of the volume for the year. They will also be issued in separate numbers, alternately or simultaneously, according to the number and character of the communications awaiting publication.

The price of the Journal to subscribers will be the same as heretofore. The subscription to the Proceedings will be, to members, (additional copies,) 3 as. a number, or 2 Rs. 4 as. yearly, to non-members 4 as. a number or 3 Rs. yearly.

HENRY F. BLANFORD,
W. L. HEELEY,
} *Joint Secretaries.*

8. From Colonel R. Strachey, a copy of his reprint of the "Palæontology of Niti."

9. From the Secretary to the Government of India, Military Department, a copy of a new edition of the "Routes in the Bengal Presidency."

10. From Professor C. U. Shepard, through Capt. W. S. Johnson, a collection of Meteoric stones and irons.

11. From Col. A. Fytche, specimens of Andamanese bows and arrows.

The following letter from Mr. John Beames was read:—

DEAR SIR,

With reference to the article on Goojrat published in the Society's Journal, No. IV. of 1864, page 402, I have the pleasure to send you the inscription on the Baolee or large well with steps at Kharian, mentioned at page 405.

The word 'Jutyoollah' in the last line but four of the page is a misprint for 'Fattih-ullah.'

The inscription was copied by me when I was at Kharian in 1859, and is strictly accurate.

Yours faithfully,

JOHN BEAMES.

Purneah, 3rd March, 1865.

P. S.—I also notice that in line 22nd, page 403, "*Tossa*" is a misprint for "*Topa*;" the latter is the name for a wooden peck-measure.

قد وقع الفراغ من تعمير التكميل في شهر رمضان المعظم في سنه الف وثلثه عشر من هجرة في زمان الملك المعاول المظفر جلال الدين اكبر الغازي امر على التكميل على فتح الله ابن حسب الله قد صرف عليه ماله مبلغ احد عشر الفا من روپيه الاكبريه الهم اغفر لمن امر بتعمره بحمد واله •

The following letter from Lieut. R. C. Beavan giving an account of the ruins in the Maunbhoom district was also read:—

Camp Rammuggur,
Maunbhoom,
Viâ Bancoorah, 11th March.

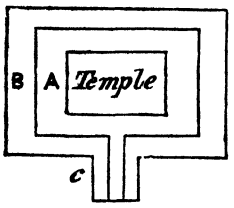
In continuation of my last letter, I have great pleasure in sending you the following further account of old ruins, &c. in this district.

At the village of Paikbhirrhiah, situated about two miles to the east of Poncha, a well known spot in Pergunnah Bagda, (more generally, however, called Sikkerbhoom,) I found the remains of several temples, three of which are now standing, but in a very dilapidated condition. Two are constructed of stone, and one only of brick, the fallen heaps, on all sides, of stones, some of which bear the trace of the carver, show that formerly, some eight or ten buildings in all must have been erected on the spot. In a small shed close by, where the villagers do poojah to it, is a colossal male figure, standing upright, with the hands stretched out close to the sides. It is depicted perfectly naked, and the hair is wound up into a knot on the top of the head. The material it is composed of is a blackish stone, and the arms only on being tapped sounded hollow.

Dimensions as follows:—

	Feet	Inches.
Total height of figure from top knot to feet...	7.	6½
Shoulder to shoulder	2.	4¾
Ditto to end of middle finger...	3	9

The back is sculptured as far as just below the buttocks, where the legs behind form part of the pedestal. The pedestal is not raised more than a foot from the ground, making the total height, from top of head to bottom of pedestal, above 8 feet 6 inches. On each side of the feet on the pedestal are two smaller figures, said to be Bhanjhas. Sex undistinguishable. The name of the figure is Bhiram, which is I fancy a synonym of Budh. An attendant brahmin is said to do poojah to this idol, in which the villagers join, but no amount of questioning could elicit any information as to dates, or by whom the buildings close by and this image, were constructed. They only know that some god built them long before either their generation or that of the oldest men in the place came into existence. This large image has evidently been broken in half across the thighs and mended again, by whom or when, nobody knows. In the same shed are four other separate figures of apparently the same person, only much smaller. They, together with the larger one, have been copiously smeared over with ghee or grease of some kind. Another carving is a square pedestal about 2 feet high, apparently the model of a small tem-



ple; on each is a standing figure. This temple is placed in the middle of a stone tank, (I fancy it is meant for,) as in accompanying sketch. B is raised, A cut out about 2 inches in depth; C is a projecting side forming a kind of spout for water, which might be poured into A.

There are a few other fragments of stone figures scattered about, chiefly of small size.

The three buildings still standing are about 25 feet high: there is nothing in them, nor any regular doorway, simply a hole large enough to give admittance to a dog, at the base. Many of the stones appear very old and are covered with a peculiar white efflorescence, due probably to the presence of some salt in their natural formation.

The brick temple is close to the others; in fact all, both ruins and temples, cannot occupy more than a couple of acres of ground. It is much worn away at the base on all sides, by bricks being knocked out. It is otherwise in better preservation than those of stone, and shews signs of having been once covered outside with plaster or stucco.

The majority of the bricks appear to be 10 inches square and $2\frac{1}{2}$ inches thick.

I have searched in vain for the traces of any inscriptions or writing of any kind which might give a clue to the date of these buildings, but could find none.

Another place in the vicinity, which I mentioned in my last letter, is a village called Budpore. I hope to be able to have a future opportunity of sending some particulars also regarding it.

From what I can gather, I am inclined to think that the country round the base of 'Parasa,' a high hill between Budpore and Paikbhirrhia was formerly much more populous than it is at present. The remains in various places, of what were doubtless at one time large tanks, in one of which, situated now in the heart of the jungles, I found a live Gangetic crocodile, (muggur,) tend to confirm this conviction, and the want of water near the hill appears at present to be the only bar to the establishment of villages nearer to it.

I should have mentioned that at Paikbhirrhia, within a stone's throw of the buildings, is a good sized tank, which, beyond a bund

thrown across one end of a natural slope or ravine to stop the water, shews no traces of human skill.

Solitary temples, all in a ruinous condition, exist in various spots in the heart of the jungles. Most are in a state of gradual decay, from trees having grown first on and then into them.

Hoping that this rough notice may elucidate some more information regarding dates, &c. from those antiquarians in Calcutta, who are best able to afford it.

Believe me, &c.,

(Sd.) R. C. BEAVAN.

Letters from Baboo Taruck Chunder Sircar, R. H. Barnes, Esq. and R. E. Goolden, Esq., intimating their desire to withdraw from the Society were recorded.

The following gentlemen duly proposed at the last meeting were balloted for and elected Ordinary members :—

Dr. J. M. Fleming, 29th P. N. I.

R. Taylor, Esq.

The following gentlemen were named for ballot as ordinary members at the next meeting :—

C. W. Villiers Bradford, Esq. proposed by Mr. H. F. Blanford, seconded by Mr. Grote.

Lieut. J. Waterhouse, Royal Artillery, Delhi, proposed by Mr. Grote, seconded by Mr. H. F. Blanford.

C. Davies, Esq., Rotasghur, proposed by Mr. Grote, seconded by Mr. Blanford.

The Rev. C. H. A. Dall was proposed by the Council as an Associate member.

The receipt of the following communications was announced :—

1. From E. Thomas, Esq., a paper entitled "Ancient Indian Weights of the earliest Indian Coinage."

2. From W. T. Blanford, Esq., "Contributions to Indian Malacology, No. V.—Descriptions of new land shells from Arakan, Pegu and Ava; with notes on the distribution of described species."

3. From Baboo Gopinath Sein, abstract of the results of the hourly Meteorological Observations taken at the Surveyor General's Office in January, 1865.

4. From the Punjab Government on the part of Dr. A. M. Ver-

chere, a paper on the Geology of Cashmere, the western Himalaya and the Afghan mountains, with a note on the fossils by M. Edward de Vernueil.

The President then addressed the meeting as follows:

"The meeting are aware, that since we last met, the mail has announced to us the death in England of a very distinguished Honorary Member of our Society, Dr. Hugh Falconer. To those of us who were personally acquainted with him, this announcement cannot but have caused very deep and sincere sorrow, and all who have followed him in those interesting researches in which he has for some years past taken so leading a part, must feel the magnitude of the loss which the Natural Sciences have sustained by his death.

"It was only two months ago that the Secretary read to you an extract from a letter addressed to me by Dr. Falconer, when on his way to Gibraltar to explore the caves in which the latest discoveries have been made of human remains. The antiquity of man was the special question on which he had lately been concentrating all the efforts of his logical and well trained mind, and it is in this more than in any other branch of science, that the want of his guidance will be most felt.

"I do not propose here to give any detailed sketch of Dr. Falconer's career; more than one such sketch has been published in the English Journals; the best in the 'Reader,' to which he was occasionally a contributor. He was a member of this Society from 1836, and all his earlier papers appeared in our Journal. His last work in India, as laborious as useful, was to label and catalogue the Tertiary fossils from the Sewaliks and other parts of India, which form the most valuable department of our Museum.

"The Council have requested me to move the following resolution:—

"'Resolved that this meeting desires to record an expression of its deep and sincere regret at the death of Dr. Hugh Falconer, and its sense of the loss which the cause of Natural Science has thereby sustained.'"

The Resolution being put to the meeting, was passed unanimously.

Mr. Oldham said,—"Sir, I most entirely concur in the expression of regret, which the Society have just recorded, for the heavy loss which they, in common with every cultivator of science, have sustained by the death of Hugh Falconer. I can, perhaps, more fully and deeply

than any one here, estimate the amount of that loss. Having long had the privilege of intimate intercourse with Dr. Falconer, living with him for years, engaged in common pursuits, and often co-operating in his more special labours, I had the fullest opportunity of knowing the value and extent of the information he had accumulated, of estimating the care and truthfulness of his research, and of admiring the astounding accuracy of his unrivalled memory. But I had, too, the best opportunity of knowing that much, very much, of this rich store of acquired knowledge was, I regret to say, not prepared for communication to others by publication. And I can, therefore, feel the vastness of the loss we have sustained.

'Sir, with this Society, Hugh Falconer was long and actively connected: his labours have added much to our collections, and still more to the value of those collections, by his accurate descriptions; and to him the Society is largely indebted as a labourer in the wide field of Indian Natural History. But he has another special claim on our grateful recollection. He was one of the earliest and most earnest promoters of some of those reforms in the conduct of the Society, which have, I rejoice to say, resulted in raising this Society from a protracted state of almost bankruptcy to one of prosperous finance, and which, I trust, will equally result in infusing into the Society a little of its former energy and activity, instead of that lethargy which seemed to have seized it. To Hugh Falconer then, this Society is largely indebted. And I cannot think that we should do justice to ourselves, did we rest contented with merely recording our sense of that obligation. I think some lasting memorial of such a man should remain; that our rooms should contain, side by side with those busts we now see, one of Hugh Falconer, a worthy colleague of those giants of Indian Science; and that we should thus endeavour to perpetuate the memory of one whose fellowship with the Society had long given honour to that body. I would not in the slightest degree desire to interfere with the worthy intentions of his many friends in Great Britain to place a similar memorial to his name in some of the Scientific Societies in London. But I do think the Asiatic Society of Bengal would be forgetful of its duty, and be chargeable with ingratitude, if it did not endeavour to do likewise. Sir, there will be no lack of funds in Europe for such a purpose, the value of Hugh Falconer was

too well known, and too fully appreciated to admit of a moment's doubt on this matter. And there need, therefore, be no fear that any effort we shall make, will interfere with others in Great Britain. I am desirous that such a proposition, however, should not come from me or from any individual member. I think it ought to come officially from the Council, and I shall, therefore, not propose any motion on the subject, but leave it to be taken up by that body, convinced that the Society will be glad to aid them in any effort to do honour to the memory of Hugh Falconer."

The Secretary read some extracts from Mr. W. T. Blanford's paper, to the following effect :—

" It is evident that two very distinct Zoological provinces exist in Burma, exclusive of Martaban and Tenasserim, which latter form a third, characterized by the appearance of several Malayan generic types. The two northern provinces are, 1st, Arakan with the southern part of Pegu, near the sea, enjoying a very humid climate. 2nd, Upper Burma, with, in many places, a very dry climate. The boundary in the Irrawaddi valley may be drawn roughly above Henzada, although species belonging to each fauna, as is usually the case, pass over the border. The first province, besides a considerable number of peculiar species, is especially characterized by forms, common on the one hand to the Khasi hills and even to the Himalayas, and on the other hand to Tenasserim. In the Ava province, on the other hand, the forms which have also been found in India, are mostly inhabitants of the plains. The genus *Hypselostoma* has as yet only been found within this province or close to its borders. It is rich in species of *Plectopylis* and in varieties or allies of *Helix similaris*. The Arakan Yama north of Henzada, separates the two provinces ; the southern portion of the range, which is very low, rarely exceeding 1000 feet, is solely occupied by species belonging to the Arakan fauna. These provinces are also characterized by distinct forms of mammals and birds, and there is a great difference in their vegetation.

" Referring to a paper of Mr. Theobald's published in the J. A. S. B. for last year, Mr. Blanford expressed his dissent from Mr. Theobald's views in many points, especially those on the origin, emigration and distribution of mollusca. He pointed out that while Mr. Theobald was endeavouring, as he avowed, to combat the views of Mr. Darwin,

he was in reality only opposing the doctrine of specific centres, which had been established by Edward Forbes, Owen, Lyell and many others, and accepted by the great majority of living naturalists. To call this the Darwinian theory, as Mr. Theobald appeared to do, would be paralleled by calling the earth's rotation round the sun the Newtonian theory. In each case the earlier theory is only a necessary step in the line of argument, and the hypothesis of the origin of species by means of natural selection is no more involved in the doctrine of specific centres, than was the theory of universal gravitation in that of the rotation of planets round the sun.

"Adverting then to the distribution of fresh water mollusca, which Mr. Theobald had advanced in favour of his opinion, and especially of the bivalves with their limited powers of progression, a well worn argument in favour of the sporadic origin of species, i. e. of the descent of each species from many parent stocks, existing in distinct localities, the author pointed out that there appears much, even in this instance, in favour of specific centres. Widely distributed species, such as *Unio marginalis*, although found in rivers, tanks, &c., which have no communication with each other, are continuously distributed with respect to geographical area, i. e. the same species do not occur, e. g. in tropical Asia and tropical America. Other species, e. g. *Unio olivaceus*, &c., are restricted to a single river, and in other cases again, such as *Unio ceruleus*, &c., and its allies, one form is found over a considerable area in Bengal, and in separate rivers, and is replaced at a distance, as in Sind and Western India, by forms which may either be considered as distinct species or as local varieties, according to the value attached to specific rank. In the intermediate country of Central India, we find intermediate forms. The case of fresh water mollusca is quite an exceptional one, and it was certainly more philosophical to consider that our knowledge of the means of distribution in this case is imperfect, than to arrogate to ourselves complete knowledge of the subject, and to assert that no means of passage exist."

Referring to the latter part of the above paper, Mr. H. F. Blanford mentioned some facts of the distribution of the fresh water genera *Melania*, *Paludomus* and their allies which in connection with an observation of Mr. Darwin's seemed to account, in part at least, for the distribution of fresh water mollusca. Mr. Darwin had found the seeds

of water plants, &c., not unfrequently adhering to the feet of water fowl, as mentioned in his work on the origin of species, and had suggested that the eggs and fry of fresh water mollusca might occasionally be transported in this way. Mr. Blanford has found that those *Melaniadæ* such as the *Tanalia*, the *Philopotamis* and those species of *Melania*, such as *M. terebra*, and *M. Hugelii* that inhabit mountain streams, (which are rarely or never visited by water fowl,) are extremely restricted in distribution, and when a number of neighbouring streams are tenanted by the same species, that each stream has frequently a distinct variety or series of varieties. The low country species on the contrary, and generally those inhabiting tanks and jheels, such as *Paludomus Tanjoriensis* and *Melania tuberculata*, have in all cases a very wide distribution. Estuarine species such as *Melania aculeata* Chemnitz are equally widely distributed. The last mentioned species ranges from the Navigator's Islands, (from which specimens exist in the Society's Museum,) to the West Coast of Africa, and the same species had been found by himself in Southern India and Ceylon. By attention to such facts as these, Mr. Blanford thought that the at present exceptional case of fresh water mollusca, would eventually be found to conform to the general rule, that in cases of wide distribution, some means of transport exist, although not apprehensible at the first glance.

In accordance with the announcement of the Council in the Annual Report read at the Annual General Meeting held on the 11th January, 1865, the Proceedings of the Society's meetings will henceforth be printed in parts separate from the Journal, to be issued monthly to all members and subscribers. They will be paged and indexed separately, so that at the close of each year, they may, at the option of members, be bound up either in a small separate volume, or as a third division of the Journal.

The original papers which will henceforth form the Journal proper, will be classified under two heads, viz., Historical, Archæological, Numismatic, Philological and Literary on the one hand, and Natural and Physical Science on the other. With the latter will appear the Meteorological registers as heretofore. These two divisions will be paged and indexed separately, forming respectively parts I. and II. of the volume for the year. They will also be issued in separate numbers, alternately or simultaneously, according to the number and character of the communications awaiting publication.

The price of the Journal to subscribers will be the same as heretofore. The subscription to the Proceedings will be, to members, (additional copies,) 3 as. a number, or 2 Rs. 4 as. yearly, to non-members 4 as. a number or 3 Rs. yearly.

HENRY F. BLANFORD,
Joint Secretaries.
W. L. HEELEY,

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR MAY, 1865.

The Monthly General Meeting of the Asiatic Society of Bengal was held on the 3rd Instant.

A. Grote, Esq., President, in the Chair.

The minutes of the last meeting were read and confirmed.

Presentations were announced—

1. From C. Lane, Esq., Akyab, a specimen of *Buceros cavatus*.

2. From E. R. Middleton, Esq., a Locust.

3. From E. R. Forbes, Esq, specimens of a lumbricoid worm and of a Gordius, captured at Purneah.

4. From Dr. T. C. Jerdon, a collection of bird skins.

5. From W. T. Westfield, Esq., a Bhotanese helmet, part of a shell found in the room in which Sir Henry Lawrence died, and four Tablets with Tibetan sacred texts.

6. From Brigadier General H. Tombs, two tablets of talcose slate, with the figure of a Namthosra or god of wealth on the one and the Tibetan six-syllabic prayer on the other, found in an old Mutt at Dewanagiri.

7. From Col. J. C. Haughton, two Tibetan printed books found at Mynagoree.

The following is an extract from the letter received with the presentation.

"The books are no doubt sacred texts. Every monastery has a library of such volumes and every local authority has a monastery attached to his court.

"At Dumsong the library contained 108 such volumes. At Dalimkote there was a large library; but it was unfortunately burnt by our

shells before we entered the place. The monks of Dumsong have theirs."

8. From Lieut.-Col. R. C. Tytler, two skins of a supposed new species of rat, killed at Umballa.

The following is an extract from the letter which accompanied the presentation.

"I shewed them to Jerdon, and he agrees with me that they are quite distinct from *Mus Indicus*, but Jerdon thinks that it may be a rat that has been described by Hodgson. I gave him a specimen and asked him to describe it for me, but I have named it MUS FRANKII after *my son Frank* who was the first to get specimens for me. This rat is very abundant at Umballa, in fact the whole country is destroyed by their numerous holes and excavations. It is purely a field animal, and I have seen none in houses. Pray present the skins to the Society for me, and give them this brief description or rather notes about them. Several of that rare and interesting pigeon the *Palumbæna Eversmanni* the *Kummer Koola* of natives, No. 787 of Jerdon's book, have been shot here lately. I have a fine specimen, and Jerdon carried away some that were shot for him."

9. From Lieut. W. G. Murray of the Rewah Survey, a tracing, by Mr. J. Lewis, assistant Engineer, Jubbulpore Line, E. I. R., of a large mass of iron found under the ruins of a temple near Jubbulpore. (Vide plate I.)

In forwarding the tracing, Lieut. Murray observes:—

"I have seen the piece of iron therein described, which is now at Kootabra, (about a mile north of Bumhowry,) in Mr. Lovell's compound, and am satisfied that it never had any characters or figures inscribed on it. The bottom of the mass has a slight concavity, and from this and from the coins being found near it, my impression was that it was a hammer for punching out the coins, but the weight is too great to allow of this theory to stand. Another theory was that it was a counterpoise for lifting those large blocks of stone, which make us wonder how the men of that date used to build, without machinery and without scientific knowledge.

"Another that it is the corner or foundation of some large temple, but I cannot exactly see why it should be iron if that was the object.

"It does not look like an idol nor even a Mahadeo! and it has fairly puzzled us all as to what its use can have been.

"The natives moreover know nothing about it, but say that at the foot of Kalinjir a similar piece of metal was found.

"If it would be worth while I have no doubt it could be sent to Calcutta to your museum.

"I do not, however, think it is very ancient, and unless the object for which it was used would make it worth the trouble and expense, I would not recommend its removal.

"I hope you will be able to give us some information, or possibly Rajendralala would take that trouble.

"P. S. In excavating for bricks, I have particularly requested Mr. Lovell to look out for any inscriptions, and if he finds any to let me know."

The following is Mr. Lewis's note on the subject.

Bumhowry, 24th March, 1865.

"Herewith a tracing of that curious piece of iron found near here, and a slight description of the locality where it was found.

"There was a large mound of earth near the village of Gulbul, about 2 miles south of this, in the Pergunnah of Raigong, Nagode, and about 100 yards east of the line of Railway, which was opened by the contractors and found to be the remains of an old city or large town. The size of it can be imagined by the quantity of bricks taken out for ballasting the Railway with, viz. more than 250,000 cubic feet up to *present* date, besides large pieces of stone, apparently having formed sills and lintels of doors; a large quantity of gods were also found, also coins, a drawing of one of which I enclose, and at as low a level as any bricks have at present been found, this large piece of iron was excavated. The drawing shows it square &c., but of course you can understand that from rust, &c. all angles are gone, but it is in sufficient preservation to show that no characters have ever been inscribed on it. If from this description of the drawing and coin you can get any light as to its origin or use, thrown on the subject, I should be glad to hear of it, as its use, &c., would interest many of us here."

The Secretary read the following note by the late Lieutenant Swiney, R. E., on flint arrow heads discovered in the Jubbulpore districts, kindly forwarded with two specimens of the arrow heads, by H. R. Carnac, Esq.

"I think you will be likely to take an interest in a subject which has occupied my attention since my arrival at this station. It is the dis-

covery of flint implements in the granitic gravel and red soil of the Jubbulpore district.

"In my rambles amongst the neighbouring hills, sketch book in hand, I was fortunate enough to hit upon several fragments, which struck me as remarkably similar to some I once saw in the British Museum.

"I therefore went systematically to work, employing coolies to dig, under the superintendence of myself and some peons.

"The result has been very satisfactory.

"By the last mail from Bombay, I forwarded to England to Sir Charles Lyell, two cases of 5 trays each of most perfect specimens, and since their despatch I have forwarded a long paper on the subject, pointing out many interesting peculiarities in these Indian specimens, and describing the manner and geological position of their finding.

"They consist chiefly of 4 sorts.

"The hammers and knives of triangular section are of precisely the same kind as those mentioned by Lyell in his "Antiquity of Man"—but the polygonal specimens have never I think been noticed before. They are most perfect, and beautifully polished, especially those in chalcedony. The jasper ones are very varied in colour and present extremely pretty combinations when laid out on the specimen trays. I must mention one stone which I consider a great find. In my paper on the subject I stated that it was difficult to conceive how these implements had been manufactured, as the polygonal arrow heads have their facets curved, as if scooped out with a gouge. I stated it probable that the rough stones had been placed on their bases and that the arrow heads had been gradually punched out of it, by a gouge working downward from the point. In support of this view I instanced a number of the specimens which bore visible marks of a circular punch, which seemed to cut the flint as clean as a cheese-scoop does cheese. I have drawn some of these marks on Fig. A.* They are exactly circular with sloping sides, and vary in size from that of a threepenny bit to that of a pin's head. No one who examines them can have doubts of their being man's handiwork. But what could they have been done with? If with an *iron* instrument, why make *stone* implements when iron was available? Again, if of iron, how did they manage it? and have we any instrument at the present date, which will punch holes in flint without cracking it? Still farther, in some of the impressions

* The Figures are not published.

the sides of the cut are torn and have a fibrous appearance, as might be made by a rather blunt gouge in dryish clay. Was the flint in a different state when these arrows were made, and hardened afterwards? Well, a few days ago, I came across a specimen most delicately marked in two places. The mark is more than $\frac{1}{4}$ of an inch long and under a magnifying glass is most clear.

"No. 1, looks like a number of semicircular bands conical in section punched into the stone by some such instrument as this:—[*Ideal sketch of supposed instruments.*]

"That represented in No. 2 is most curious, 2 most perfect cones left in the centre of 2 intersecting circles punched into the flint. One cone has been chipped on one side. This was done by a circular punch or by two operations with the semicircular one for each cone. The age of these implements is I think proved by, 1st, their presence in the granitic and sandstone formations, and 2ndly by the fracture of a number of the white bleached ones, which in section, show a core of the original coloured flint, with its bleached outer surface. Many of these bleached thicknesses are fully $\frac{1}{8}$ of an inch.

"I have also shewn one in Fig. B. How long it takes to bleach flint is of course a matter of doubt, but Sir Charles Lyell seems to think some 1000 years are necessary at the surface of the earth and under the influence of no extraordinary chemical action.

"I have made enquiries amongst the natives and Gonds, and can get not even a tradition on the subject of these curiosities. They all pronounce them to be natural or 'Khudá ne banáyá.'

"The subject is one of considerable importance at the present stage of scientific enquiry, and connected with the discoveries of the flint implements found in the Engis and Neanderthal caves, the valley of the Somme, and in England, the two cases of specimens, (the first ever sent from India!) which I have sent home, will attract considerable attention and interest.

"I have written to the Royal Asiatic Society in Bombay on the subject, but only a short note asking for information."

Mr. Blanford thought that the specimens exhibited did not admit of any decided inference as to their artificial character. They were certainly not arrow heads, but bore near resemblance to 'cores' from which splinters had been chipped off to serve either as arrow heads or

as mere cutting flakes. If so, they were, however, smaller than their European homologues. The difficulty of accounting for the gouge-like facets of the specimens, which had led Lieutenant Swiney to suggest the use of some cutting implement, was one of very simple solution. Any flint or agate struck in a particular direction would give similar facets, more or less regular according to the homogeneity of the stone. The drawings which accompanied the paper did not appear to be exact representations of specimens, in all cases, at all events, and it was impossible to say how far they had been idealised, but some of the wedge-shaped forms represented, must be artificial, unless the imagination of the draughtsman had been exercised to a very great extent. The marks noticed by Lieutenant Swiney, and which he had thought to be evidence of the use of a cutting instrument, appeared to Mr. Blanford so far as any opinion could be based on the sketches, to be natural marks, such as occurred not unfrequently on agates, weathered but not water-worn.

The following extracts from letters from Mr. T. F. Peppe, about the Antiquities of Gya, were read, and the photographs referred to exhibited.

The President observed that Mr. Peppe had promised to send a set of these prints for the Society's Album, together with a note more fully descriptive of the remains shown in them.

He took the opportunity of exhibiting 2 drawings, made by Mr. E. Armstrong, of figures in the Behar district. The one was a colossal sitting figure of Buddha from the Barabar Caves, the other that of an equally colossal Boar, which he found at a place called Parbotteepoor some 12 miles from Giriyek :- the attitude of the animal is very much that of the inscribed Boar at Eran in Central India.

Gya, 5th January, 1865.

"I send you a few photographs of some of the places mentioned by Cunningham as worth photographing. I should like to complete the set in this district, but unfortunately most of the places are out of my district.

"There is, however, one temple here which has interested me much from its general resemblance to the one at Boodh Gya, and I am surprised that Cunningham did not visit it; it is at *Koch* only 14 *miles from Gya* on the Dondugga road.

"This cave temple is referred to in Mr. Martin's Eastern India, Vol. I. page 66, and a drawing given, but the photograph will show it was not a very correct one. He seems to think that the temple from its state of preservation, is not of a very early date, but I cannot help thinking that it is one of the oldest temples in this district; it is built on the same plan as the Boodh Gya one, and the materials and finish correspond; there is an arched chamber below; above this is another chamber which gradually decreases to a point at the top of the building; the singular opening or doorway to the upper story is not arched, but tapers to a point, and the wall above this is lightened by a recess in the inside on the same principle, exactly like the temple at Boodh Gya. There is, however, a general want of the usual accompaniments of a Buddhist temple in or immediately round the temple, but there is a vast accumulation of rubbish round it, and many may be buried under this accumulation. A series of Pillars seems to have surrounded it, but not of the Buddhist type or 'railing.' I am therefore inclined to think that this is one of the oldest *Hindoo* temples, but built in Buddhist times. I can gather no authentic information regarding its erection, the people in the village adjoining being perfectly ignorant. The Rajah of Deo informed me, it was built by the same prince who built the temple at Oomga and the one at Deo, (I send a photograph of the Oomga temple and the one at Deo is very much the same—) but this is mere conjecture on his part. I also send a photograph of a singular stone inserted in the Porch of the Koch temple, of the ten avatars mentioned by Dr. Buchanan. To the south of the temple there are extensive mounds of bricks and rubbish, out of which several large statues have been dug. I send photographs of the larger ones; two of them have inscriptions as you will perceive from the photographs. I have copies of these, and if desirable, could send them. The larger figure is very fine, but unfortunately wants the head, but otherwise it is one of the finest pieces of sculpture I have seen.

"I also send a photograph of a very singular stone which I found on the borders of a tank at Oomga on the Trunk road. It is of green serpentine and very old, with an almost illegible inscription, which is more distinct I think in the photograph than when looking at the original. Can you give me any idea of what it was intended to convey. The centre figure is a Boodh I think, but the hand with a lotus in the palm, and the sun

and moon are evidently emblematical. I found another at the same place, but not so large or so well preserved. I was told that they marked the burialplace of a 'jogee' or 'muhunt,' and I am inclined to think this near the truth, but in that case it would be that of Buddhist—the Sanyásies have generally a stone with a peculiar mark scratched on it put up when they are buried thus.

"I find that Major Kittoe visited and described the temple at Oomga. I found the inscription he refers to inside the temple: it is a very long one and in good preservation, and has, I believe, been translated. I found his paper in the XVI. Vol. of the Society's Journal; in the same vol. he refers to the temple at Koch but does not seem to have visited it."

Gya, 22nd March, 1865.

"I have found out a great many interesting works in this district which have not been noticed before, and have taken photographs of the more interesting statues, &c., which I will send with the notes I made at the time. I have also some inscriptions which I think from their age and locality may prove interesting.

"With regard to the magnesium light there is nothing in this district which is worth photographing by that means. The caves at Burabur are quite plain, polished granite inside, so there is nothing that would show in a photograph. Where is the wire procurable?

"Yes, the stone is not serpentine, but a species of green potstone. I found another fragment and was then enabled to break it, and then saw what it was. If you fail in reading the inscription I will get an impression in clay and send it.

"This district is very rich in antiquities, and I find old Buddhist statues in fragments, all over the country; mostly imperfect, but some of them very unique.

"I should very much like to know if Cunningham visited Koch, and what he thinks of the probable age of the temple. Mr. Horne, of Benares, says it is Buddhist! If so, the statues &c. are not, but the older ones may have been removed or destroyed."

The following communication from Lieutenant R. C. Beavan, giving a further account of the ruins of Budhpore was read.

"The following notes were made during a recent visit to the ruins at the village of Budhpore, in Pergunnah Maunbhoom, District Maunbhoom.

"Budhpore is a small village situated on the banks of the Cossye river, and between it and the Parasa hills, the highest point of which forms a station of the Great Trigonometrical Survey Long. E. 86°. 43′. Lat. N. 23°. 07′. The greater portion of the ruins, comprising probably the remains of some four temples, are close to the village on the North East side of it; and at a short distance from them, and further still from the village is a large tank, the largest fn fact that I have seen for some miles in this direction.

"An annual mela or fair is held at Budhpore during the Churruck Poojah festival, to which, amongst other things, are brought, I understand, numbers of young birds for sale, chiefly the Shama, *Kittacincla macroura*, Gmel—and young parrakeets, *Palæornis rosa*, Bodd.—I imagine that it is from these fairs, which appear to be usual in many places in the district at this particular festival, many of those birds are collected which eventually find their way for sale to Calcutta—and are said to come from the Rajmehal hills.

"Besides the main ruins, there are several carved slabs scattered about in different places, which I propose attempting to describe in detail. To begin with the chief ruins, which are now crowned by a modern Hindoo temple, not more than 12 or 14 years old according to my informant's account, and which is built on a rising mound formed of the stones and debris of the largest of the four original temples. The old temples were built apparently of nothing but hewn stones, many of which appear to have been elegantly carved into mouldings for corners, &c. The modern structure is of brick, and in honor of the approaching festival was being whitewashed at the time of my visit.

"In front of it, the remains of two old archways and an entrance court are still standing—and within a stone's throw about a third of a small square-looking building, evidently meant to flank the entrance to the old temple. This is to the left hand on approaching the temple; a heap of ruins to the right marks the site of a similar "lodge." Between the two was evidently a raised causeway, of which some steps and a hexagonal pillar or two, still stand. The object of these pillars which are about 5 ft. high and a foot in diameter, each cut out of one block of stone, I cannot imagine. The tops of the two ancient archways are each formed of one or two very large slabs of stone which

from semicircles cut out of each end—would shew that the old doors were swung on them. The gateways are not large enough to admit a cart.

"In the pathway in front of the temple lies a peculiar looking carved stone with four handles said to have formed the top of the old temple. I have great pleasure in enclosing a beautiful sketch of it made by my friend Mr. Jackson, of the Survey. Its weight was so great that two men could not lift it.

"A few yards in front of the temple, stones of every conceivable shape and size are scattered about; all, however, carefully hewn and some cut into patterns. Some five or six large carved stone slabs lie here, three or four are placed upright in a row, some half buried; and one or two lie flat on the ground. No. 1 is a large slab, in this latter position: it consists of a figure of an animal, half horse half elephant; a drawn sword is in his right hand, his left is holding the reins, and in the right hand corner is what I take to be meant for a bow. Surmounting the figure and in relief, is the figure of a couchant lion, and below it is an inscription almost defaced.

"No. 2 is an upright slab about 5 feet high. On it are two figures, the upper one is like the figure in No. 1, on horseback with a drawn sword in the right hand; below is the figure of a man running on foot, a sword in the right hand and a drawn bow in the left.

"Three more upright slabs contain figures almost exactly similar to the lower part of No. 2.

"Half buried in a small pool of water and rubbish to the right hand side as you enter the village, and some hundred yards from the temple, are three more slabs, partly upright; the figures on all three are similar to the upper figure of No. 1, but perhaps executed better. The couchant lion (in relief) on all three wants its head, which has evidently not met with fair play. On one slab even the detail of shewing the stirrup iron of the mounted figure is not neglected."

A letter was received from the Government of India forwarding a note by Major R. Ouseley on a kind of peat found in the Pertabgurh district in Oudh together with a report on the peat by A. Tween, Esq. assistant in charge of the Geological Survey office.

The following is Major Ouseley's note,—

Dated 31st January, 1865.

"In September 1864, I first heard of this mud; I got specimens of it in October; I sent some to the Commissioner (Currie) of the division early in November; I sent some to the Chief Commissioner in November, and to the Exhibition in December, under the name of peat. The Chief Commissioner said it was an interesting discovery, and he had made it over to Bonavia for report. Some of the fuel was burned before the Financial Commissioner and King early in December. Bonavia said the article was practically useless for fuel, as it would not flame under a blow-pipe. Every one who saw it said it was not peat, but no one can say what it is. I have called it an argillaceous shale, highly bituminized, and it appears to me to be composed of argil, carbon and silica. I have written three letters containing the fullest information I could gather on the subject to the Secretary, Chief Commissioner, since the 17th instant. The points to be determined are: is this fuel so superior to wood as to render its consumption at a remunerative price practicable, and can it be found in sufficient quantities in this country, to render its discovery of any use. The natives have always known of its existence and that it smoulders. I account for this by observing that in a common native *chula*, or on the ground in small quantities, it does not flame; it requires to be built up or put upon bars like an English fireplace, with a chimney or something that will draw it, before it will burn (in small quantities) like coal—of course a large dry heap in the open air, lighted from below, will blaze freely enough. The natives say that in former ages god-like people used to offer enormous sacrifices (*home*) of ghee and grain, and this is the reason they make no kind of use of it.

"Near the village of 'Kundhowlee,' Pergunnah 'Dheengwas,' Tehseel 'Behar,' District 'Pertabgurh' in Oudh is a jheel or swamp of about 12 acres, in which is found a mud, which, according to native accounts, smoulders like wood. I visited this swamp in November 1864, and found it, owing to the failure of the rains, quite dry. After digging in this swamp to a depth of from 9 to 12 feet a layer of something like ashes is found, which is from one foot to a foot and a half thick, below this comes a layer of black mud from one foot to five feet thick; this, when put on a fire in a damp state, smoulders away; when dry, it burns

like coal. Below this mud comes sand; to what depth it is impossible to say, without sinking a well, or the aid of a boring instrument. In some of these wells water is reached close to the surface; in others below the black mud, which, however, is always found in a damp soft state—on the high banks on both sides of the swamp, water and sand are found close to the surface. That the mud is a species of fuel there can be no doubt, and I have ascertained that it is met with in other swamps in this district. Mr. Taylor, Locomotive Foreman at Cawnpore tried 2½ maunds of fuel against 2 maunds of wood. From the fuel he got 40 lbs. of steam for 1 h. 10 min., and from the wood 40 lbs. of steam for 1 h. 18 min. He gave it as his opinion, that the fuel would do very well for the use of Locomotives. An Engine Driver on the line said, he thought the fuel superior to wood. In bulk I should think that two maunds of fuel would go to one maund of wood. The cost would not I think be more than 8 annas a maund, but, this can only be determined by working on a large scale. I extracted from the fuel what I fancy must be coal tar, and I tried some of the fuel charred in a native blacksmith's furnace, and found that it heated iron sufficiently for beating out, but not for welding. The fuel leaves much ash, just like mud, and it strikes me that this might be useful for manure. In the centre of the fuel I have found bits of decayed wood, and in one a bit of bone. Some of the fuel is much freer from mud than other portions of it, but the carbon and the mud appear to be so completely intermixed, that I fear no amount of charring would ever separate them. Four-fifths of the weight of the fuel is lost in the mere process of drying in the sun. I forward specimens of the fuel sun-dried, charred by the native process for making charcoal, and of the oil extracted from the fuel, which I have called Coal Tar."

The following is Mr. Tween's report.

Dated, March 20th, 1865.

"In the absence from Calcutta of Mr. T. Oldham, the Superintendent, Geological Survey of India, I am instructed to acknowledge the receipt of your demi-official letter without date, and of the specimens referred to therein, with Capt. Ouseley's letter relating to them.

"The specimens forwarded are of an impure and imperfect peat, which appears to have resulted from the continued deposition of vegetable matter mixed with mud, at the bottom of a jheel or marsh: the presence

of fine sandy particles and of minute scales of mica shew that this has been its origin.

"As a fuel, the material is of very slight value. It yielded to assay the following.

Fixed Carbon, ...	16.5
Volatile matter, ...	48.0
(13.3 water.)	
Ash, ...	35.5

"The fixed carbon, which may be taken as the index of the relative value of fuel for heating purposes is not $\frac{1}{6}$th of the whole, while the ash, perfectly useless for the purpose of a fuel, amounted to more than one-third. It can be used as a fuel doubtless, and for ordinary domestic purposes mixed with wood, it would give a steadiness and permanence of heating power, which wood alone could not. But for general purposes, it may be pronounced next to useless as a fuel.

"As a manure, it would doubtless be useful to mix with poor thirsty sandy soils, in which there is a deficiency of humus or of vegetable matter, but it would be of little use as mixed with soils of ordinary character and richness. For garden purposes it would be useful.

"There is no question that an oily extract could be obtained by distillation, but the amount of this would never be sufficient practically, to pay for its extraction.

"I am also instructed to state that in all probability, Captain Ouseley will find that this deposit is by no means so extensive as he appears to suppose, and that he will most likely find, on further investigation, that it is limited by the area of the jheel from which it has been derived, and that even over that area it will be found to be irregularly distributed.

"Capt. Ouseley's letter in question is returned, a note having been made of the locality where the specimens were obtained.

"The decomposing wood subsequently sent is loaded with moisture, and would therefore require several days' exposure to a dry atmosphere before it could be used as fuel. It contains besides a large quantity of earthy impurity. The tooth and portions of bone shall be given to Mr. Oldham on his return."

A letter from C. P. Caspersz, Esq., Commissioner of the Sunderbuns with an enclosure from Babu Sib Chunder Mullick, announcing the discovery of inscribed stones in the Sunderbun Lot 211, was read.

The following letter from Archdeacon Pratt to the President, was read.

The President explained that his object in bringing forward this letter was to give the Society the benefit of the writer's own resumè of the whole series of his papers, some of which had been published by the Royal Society. The 5th and last of the series would appear, he hoped, in the Society's Journal in the course of the present month.

Calcutta, March 9th, 1865.

"MY DEAR MR. GROTE,—After our conversation last night, it strikes me that it will not be amiss if I put in writing in a few words what is the object of my last (and fifth) paper, laid before the Royal Society, on Local Attraction for your information as President of the Asiatic Society.

There are two main problems to be solved by Great Trigonometrical Surveys, (1) the very accurate mapping of the countries to which they appertain, (2) the determination of the average form of the earth with great nicety. The instruments used in the Survey operations are adjusted by the plumb-line, and therefore any derangement in the plumb-line by Local Attraction, (that is, by irregular attraction at the place where the plumb-line is), affects the Survey operations and the results deduced from them.

In my first paper, I showed that the Himalaya mountains have a great effect on the plumb-line in the plains of India. In my second, that the Ocean, south of India, by deficiency of matter, has also a great effect on the position of the plumb-line. In my third paper I showed that slight variations of density in the materials of the crust of the earth, such as no doubt exist, have also a considerable effect on the plumb-line—but the exact amount cannot be found, because we cannot survey the materials of the crust, as we can measure the height and form of the mountains or the depth and boundaries of the ocean. The result of these three papers was, that there were causes of considerable derangement in existence, but their aggregate effect could not be found, because that part which arises from variation of density in the crust, cannot be found.

In my fourth paper, I showed what effect these deflections in the plumb-line would have in the first of the two problems which Surveys have to solve—viz. mapping a country, and the result was, that the *relative* position of places in a country could be determined by the Survey with accuracy, but the precise position of the map on the globe could not be found: this would depend upon the unknown deflection of the plumb-line at the particular station from which the Survey operations began. This is the result you said last night you announced when you were before President.

In my fifth paper, (on which my letter which is about to be published was written,) I show what the effect of the deflection is upon the second of the two problems, viz. the accurate determination of the average form of the earth. This paper consists of three parts. (1) I show that the amount of *uncertainty* introduced into the problem of the figure by local attraction is very considerable. (2) By making a very probable hypothesis, I show that this uncertainty may be altogether removed. (3) I gather some speculative results regarding the constitution of the earth's crust.

Thus you see that while the result announced on the former occasion was final in the *one* problem, the result now announced is final in the *other*."

A letter from Dr. B. Simpson, intimating his desire to withdraw from the Society, was recorded.

The following gentlemen, duly proposed at the last meeting, were balloted for and elected ordinary members.

C. W. Villiers Bradford, Esq.

Lieutenant J. Waterhouse.

C. Davies, Esq.

The Rev. C. H. A. Dall was also balloted for and elected an Associate member.

The following gentlemen were named for ballot as ordinary members at the next meeting.

Raja Joykissen Doss Bahadur, Deputy Collector and Magistrate, Allyghur, proposed by Syad Ahmad Khan Bahadur, seconded by the President.

Joseph Agabeg, Esq., proposed by Capt. W. N. Lees, seconded by the President.

Lieutenant T. H. Lewin, Chittagong, proposed by the President, seconded by Mr. H. F. Blanford.

Babu Sarodaprosanno Mookerjee, zemindar, Gobordanga, Baraset, proposed by Babu Gour Doss Bysack, seconded by Mr. H. F. Blanford.

A. H. Giles, Esq., Assistant Superintendent of Police, Khoolna, proposed by Babu Gourdoss Bysack, seconded by Mr. H. F. Blanford.

The Council reported that they had appointed Whitly Stokes, Esq., a member of their body *vice* Colonel H. L. Thuillier who has left India; also that they had appointed Lieutenant-Colonel J. T. Walker a member of the Statistical and Meteorological Committees.

They also reported that, during Mr. Blanford's absence from Calcutta for the greater part of the present month, they had appointed Dr. J. Anderson and Bábu Rájendralála Mitra to conduct the business of the Secretary to the Society.

The receipt of the following Papers was announced.

1. From Col. J. T. Walker, "Notes on Central Asia" being a translation by Mr. R. Michel of M. Semenof's preface to the 2nd Vol. of Ritter's "Erdkunde von Asien."

2. From J. Beames, Esq., a paper entitled "Outlines of a Plea for the Arabic Element in official Hindustani."

3. From Capt. H. H. Godwin Austen, F. R. G. S., "Notes on the Sandstone formation, &c. near Buxa Fort, Bhootan Dooars."

4. From C. Horne, Esq., "Notes on Boodh Gya."

The Secretary read Capt. Godwin Austen's paper of which the following is an abstract.

Buxa Fort is situated at a height of 2,400 ft., near the foot of the first range of hills, that rise above it on the north to 6,000 ft. above the sea, this ridge being the continuation of the western watershed of the Tzinchu. The rock of the range is well stratified gneiss. The plateau on which the fort of Buxa stands, is composed of talus and *debris* from the hill above, and is situated in a valley formed by spurs from the northern ridge. The eastern of these is of gneiss, but the western is composed of coarse micaceous sandstones dipping at a high angle towards the north. The ridges to the west are all of the same formation, but do not extend much higher than 3,000 ft. In these sandstones occurs lignite, in lumps and strings, some shewing the woody structure well and splitting in the direction of the

fibre. No fossils were found, and the search for leaves which might indicate the nature of the vegetation that had produced the lignite, was unsuccessful. The author was equally unsuccessful in finding any regular bands of lignite.

The outcrop of the sandstones was covered with what appeared at first to be an unstratified talus, but when a section was obtained, it was found to be horizontally bedded, and therefore quite unconformable on the sandstones. About 150 feet of the surface beds were exposed in section. They were composed of sandy clay and semi-angular gravel with scattered, partly water-worn masses of rock, some of large size. The plateau of Buxa is probably in highest level of the horizontally stratified gravels.

Mr. Blanford remarked that the beds containing the lignite appeared to be similar to those long since described by Mr. Colebrooke in the 1st volume of the Trans. Geological Society, as forming the banks of the Teista where that river debouches from the hills. There also they contain lignite, their dip and position are similar, and the leaves which were there found prove them to be of Tertiary date. It seemed probable that they were of the same age as those containing the Cherra Coal, but the identity had not yet been traced out. The horizontal beds mentioned by Capt. Godwin Austen as resting unconformably on the sandstones, were probably identical with those mentioned by Dr. Hooker at the base of the Sikkim hills, and which, as Dr. Hooker had suggested, seemed to form the littoral deposits of the formation, which filled the greater part of the Gangetic valley, and was known to the Geological Surveyors as the old alluvium. This appeared to be continuous with the red sandy deposits which covered the older rocks in Beerbhoom, and with the lateritic deposits generally around the delta. Mr. Blanford concurred with Dr. Hooker in regarding it as a marine formation, and indeed judging from its physical position and great extent, it could hardly be otherwise, although no fossils had hitherto been found in it, unless some discovered by Mr. Colebrooke in the banks of the Brahmaputra at the corner of the Garrow hills should be from this formation. The great elevation of the deposits on which Buxa stood, was, however, very interesting.

In accordance with the announcement of the Council in the Annual Report read at the Annual General Meeting held on the 11th January, 1865, the Proceedings of the Society's meetings will henceforth be printed in parts separate from the Journal, to be issued monthly to all members and subscribers. They will be paged and indexed separately, so that at the close of each year, they may, at the option of members, be bound up either in a small separate volume, or as a third division of the Journal.

The original papers which will henceforth form the Journal proper, will be classified under two heads, viz., Historical, Archæological, Numismatic, Philological and Literary on the one hand, and Natural and Physical Science on the other. With the latter will appear the Meteorological registers as heretofore. These two divisions will be paged and indexed separately, forming respectively parts I. and II. of the volume for the year. They will also be issued in separate numbers, alternately or simultaneously, according to the number and character of the communications awaiting publication.

The price of the Journal to subscribers will be the same as heretofore. The subscription to the Proceedings will be, to members, (additional copies,) 3 as. a number, or 2 Rs. 4 as. yearly, to non-members 4 as. a number or 3 Rs. yearly.

HENRY F. BLANFORD,
W. L. HEELEY,
} *Joint Secretaries.*

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR JUNE, 1865.

At a meeting of the Society held on the 7th instant,

A. Grote, Esq., President, in the chair,

The proceedings of the previous meeting were read and confirmed.

The following presentations were announced—

1. From Lieut. R. C. Beavan, skins of two specimens of *Lepus ruficaudatus*, Geoffroy; one of *Canis aureus;* and one of *L. Cynalopex Bengalensis.*

2. From Capt. H. H. Godwin Austen, three books of sacred writings in Tibetan, taken in the monastery of Chamoorchi, Bhootan; a printing block with the muntra 'Om mani padme hum;' a Bhootan standard taken at Chamoorchi; two old matchlocks; a quiver and arrows; a long ladle of iron and brass used for filling the cups of water, &c., in front of the idols in the monastery; two human thigh bones used as trumpets; a copper telescope trumpet; specimens of lignite from Buxa; specimens of earth of a dark colour found on the Basera river in thick beds; a primitive musical instrument made of Bamboo, used by the Mèchis of the Dooars; and a wooden ritual instrument with gilt Tibetan characters.

The following extract from Capt. Austen's letter, referring to the ritual instrument, was read.

"Its name I do not know, or in what service it may be used. Mr. Jaeschke would no doubt know all about it. Please add these things to the museum for me. One of the books appears a very good one, as it has been all written by hand: I have taken especial care that the leaves should not be disturbed since I took them off the shelves they laid on."

3. From Moulavi Abdul Luteef Khan Bahadur, several copies of Reports of the Proceedings of the Muhammadan Literary Society of Calcutta.

4. From the Hon'ble W. Muir, a copy of his "Life of Mohammad" in 4 vols.

5. From Bábu Rájendralála Mitra on the part of Bábu Gourdoss Bysack, a meteorite which fell at Gopalpur near Bagerhaut in the district of Jessore, on the 23rd May last.

The following note accompanied the donation.

"Here is a magnificent catch for your Society. It is nothing short of an aerolite over 3 lbs. and a half in weight, and perfect in every respect. Its ash gray colour, speckled with black, its vitrified black crust, and its harsh grating friable texture will convince you of its being a veritable comer from another world, even if you should have no faith in the enclosed depositions made before me. You will at once perceive that in character it differs very little from the Shalka and Dhurrumsala meteorites, though somewhat harder* than the stone which was lately sent to the Society by the Hon'ble Mr. Beadon from Dacca. The edges and angles of the stone are so sharp that it is evident it could not have been in a fused or semi-fused state when it travelled through the air, and yet two of the faces have such thin and imperfectly formed crusts, that I think the stone must have broken in the air above our atmosphere, and the crust on those sides subsequently formed. On the upper surface, there is a curious impression very like that of a feline paw. You must not, however, infer from it, that the pet cat of Cynthia had jumped out of her lap, and fallen on the stone while yet it was soft. Mr. Oldham will, I am sure, assign a better cause for it."

The following are the depositions, taken by Bábu Gour Doss Bysack, which accompanied his letter.

"Bakerooddin Shaikh of Gopalpur, Pergunna Selimabad, deposed :— 'On Tuesday last (23rd May) at about 4 *dundo* in the evening (*i. e.* about 6 o'clock P. M.) I had been to the field to fetch home my cattle. It was very cloudy at the time. The clouds were particularly dense to the south. All of a sudden a hissing sound (ভোঁ ২) was

* This is doubtful. So far as can be judged from the chipped edges, the present stone appears to be more friable than the Dacca Meteorite.—EDS.

heard from south-east corner, and something dark fell on the ground about 5 or 6 *nols* (about 33 feet) off from the place where I was standing. I approached the spot, and found that there was a hole in the ground. I took up the peg (*loree*) to which the cow was tied, and put it into the hole. It touched something in the bottom of the hole which sounded like ঝামা (vitrified brick) I called Alef to see it. It came in an oblique direction from the south side where the cloud was the thickest. Alef came and saw the hole. The cow had scampered off, just as the stone fell about 2 cubits from the spot where the cow was, but it did not hurt her. I alone saw the fall. It did not fall in a perpendicular line. There are trees at the place, but none were injured: the sound was like that made by the flight of a vulture or several vultures. I saw something dark falling on the earth. There was no smoke, no light, nor any smell. I can't describe further; no other sound nor any roaring of the cloud was perceptible before the fall. I believe except Alef and myself there was none else on the *kola* (field) at the time. Alef was about 5 or 6 *russees* off when it fell. We picked up the stone; it had buried itself about 17 or 18 *ungoolees* (about 15 inches) deep under the ground. The hole was 7 or 8 *ungoolees* wide at the mouth, but it was not straight, but a little inclined to one side. The stone was not visible from above the hole. I could feel it by the stick. When we picked it up, it was warm, not very hot. I picked it up after it had been in the hole about 1 *dundo*, or the time occupied by walking 11 *russees* (440 yards) for a *khunta*, which had to be brought from a neighbouring house before we could dig it out.'

" Alef Shaikh deposed; 'I was returning home from my *khet*, I heard the noise; it was not like thunder but like a loud hiss (সোঁ২); there was no light; I did not see the fall, as I was 4 or 5 *russees* off; I was alone; I was proceeding from the *khet*. Bakher brought a *khonta* from a *Gristo's* house; we dug it up and saw it was stone; I handed it to Bakerooddin. He kept it in a new earthen pot *(haree)* as something extraordinary. We did not make poojah to it, we knew not what it was, but as Hindus have several idols, we thought it must be one of them. Almost all Hindu idols are of stone, and it resembles them. The report of its fall spread around, and many people came to look at it, sometimes 5 or 6, 10 or 12 from the neighbourhood.

Gopalpur is the zemindaree of Parvati Churn Roy. The sun was not visible at the time; it was cloudy, but not very dark; there was no lightning or thunder. It did not rain at the time, it rained in the forenoon: the wind was not high, it was usual. I do not recollect whether it rained at night after the fall: we did not see the moon that night. I see the corners of the stone chipped off. I can't say how that occurred. It may be by the striking of the *khonta* while digging. It sounded or I felt it like a ঝামা (vitrified brick).'

"Fellu Khan deposed:—'I was at Bagerhât that day, when I returned home, I heard all the particulars from my brother. Next morning, I went to see the stone.'

"Jaker Shaik;—'I am a neighbour. On my return home I heard the particulars, and saw the stone.'"

The President proposed that the special thanks of the meeting be voted to Bábu Gour Doss Bysack for the above highly important donation.

Mr. Blanford had much pleasure in seconding the President's proposition. The Society were greatly indebted to Bábu Gour Doss Bysack, not only for the stone, which was in itself a valuable acquisition to the Museum, but also for the care and intelligence with which he had collected information respecting its fall, and had thus seized an opportunity of recording a phenomenon of very high interest, and one which but rarely presents itself under equally favourable circumstances for observation. The stone was nearly perfect, having lost only a few chips at the edges, and there were some peculiarities on the exterior, which Mr. Blanford did not remember to have been noticed on any stone with which he was acquainted. He referred especially to the fluted markings on one of the faces, the cause of which would be an interesting subject for investigation. The pitted marks observed on another face, and noticed by Bábu Gour Doss Bysack in his letter recalled the shallower marks of a similar character on the face of the Parnallee meteorite. The two appearances might possibly be due to the same cause, viz. the unequal erosion of the stone by the friction of the atmosphere on parts differing in fusibility and hardness, but this could merely be offered as a suggestion.*

* On re-examination, I am entirely confirmed in this idea. The deep pits and grooving of the stone as well as the striation radiating from the pits, are

Read the following extract from a letter from Col. Walker on that part of Persia over which the telegraph passes.

"Lieut. St. John of the Royal Engineers, writes to me to the following effect from Persia, where he is at present employed on the line of the telegraph.

"'A country more easy to get a rough but correct map of, I cannot imagine. The hills are well marked, and run in parallel chains, with level vallies from two to ten miles wide between them. The atmosphere is exquisitely clear for nine months in the year, and the hills tolerably easy of ascent. Their height varies from 3 or 4,000 feet near the Sea, to 15,000 or 16,000, the latter being I think not an over-estimate of a chain I saw with at least 3,000 feet [of snow?] on it, at the end of August. The heights have been much under-estimated by travellers. Shiraz is nearly 5,000 feet above the sea, and the passes between it and Kazeroon 8,000. The rise of the country as it were in steps, from valley to valley to the table land, may have led to this error.

"'A theodolite, I fear, we shall hardly be able to use, from the excessive jealousy and suspicion of the Persians, who would say at once that we were either prospecting a road to invade Persia, or searching for gold; the latter perhaps being the most dangerous suspicion to excite. Sextant work in camp they do not object to, putting it down as astrology, for which they have a great respect. The popular idea about my own observations was, I know, that I was engaged either in an attempt to ascertain the period of the next earthquake, or when the line of telegraph would be finished.'"

The following extract from a letter from Major-General A. Cunningham was also read.

"The principal places that I visited during the past season were Bairât, Ajmer Gwalior, Khajurâho and Mahoba.

"At Bâirat there are no remains of any interest, but the spot from whence the Asoka inscription, now in the Museum, was obtained, is still called *Bijak*, or "the inscription stone." It is the site of a

think, without doubt due to erosion by atmospheric friction. Something similar appears on the Durala stone in the British Museum, figured by Prof. Maskelyne in the Phil. Mag., 4th Ser. No. 170 for June, 1863. Pl. IX. A fuller notice with figures will shortly be laid before the Society.—H. F. B.

Buddhist monastery, on the top of a hill, to the south of the town. Bairât, however, is interesting as one of the earliest places occupied by the Muhammadans. It is the *Bazâna*, or *Barâna*, or *Narâna*, of Abu Rihân, the capital of *Karzât*, and the *Pâryâtra* of Hwen Thsang. After the capture of the place, Mahmud Ghaznavi was shown an inscription on stone which was said to be 40,000 years old. I think it highly probable that the inscription now in the museum is the very one that was then shown to the Muhammadan conqueror.

"At Ajmer I was delighted with the Great Mosque, which is the most perfect specimen now existing of the earliest Muhammadan architecture of India. I found a dated inscription, inserted in the back wall, which is incomplete, and cannot therefore belong to its present position. But it no doubt belongs to the mosque. The date is A. H. 596, or only seven years later than the Great Mosque of Kutb-ul-Islam at Delhi. The seven great arches of the screen wall forming the front of the masjid are still standing, and form a most noble entrance; but the most curious and interesting part of the mosque is a pair of small minars on the very top of the wall over the centre arch. These are *Mâzinahs*, or towers for the *Muazzin* to call the people to prayer, and they are fluted with alternately angular and round flutes like the great Kutb minar at Delhi. Like it also they have bands of inscriptions, giving the name and titles of Altamish, and of the Khalif Naser, *Amir-ul-Muminin*. The mosque is much larger than that of Delhi was originally before its enlargement by Altamish. The difference can be best appreciated by the difference in the thickness of the great screen wall, that of Delhi being 8 feet thick, while that of Ajmer is no less than 11½ feet thick. The colonnades of Hindu pillars do not form, as Tod states, a Jain temple, but are made up of the spoils of *many* Hindu temples, which, to judge from the few remaining figures, were certainly Brahmanical.

"At Gwalior I made measurements of all the temples. The great temple, which has always been called "the Jain temple" appears to me to be a Brahmanical building. It is literally covered with Brahmanical figures, and I could not find a single Jain sculpture. I believe it to have been a temple of Vishnu. So also was the lofty temple, now called the *Teli-mandar*, but this was afterwards taken possession

of by the followers of Mahadeo, who made a new entrance, and established a *lingam* in the centre of the building.

"At *Khajurâho* I measured all the principal temples, which perhaps form the most wonderful and magnificent group of Hindu remains in Upper India. On one of these temples I counted upwards of eight hundred statues of half life size, and eight elephant statues of the same dimensions. But the most wonderful part of the principal temples is, that the *sanctum* is a temple of itself inside the great temple, and is just as thickly studded with sculpture. At Khajurâho there are upwards of 20 temples still standing, and the remains of at least as many more!

"At *Mahoba* I measured the temples, and searched the ruins carefully for inscriptions. I found two or three new ones which had escaped my search in 1843 and again in 1850. One is the well known Buddhist profession of faith, in characters as late as A. D. 1000. A second, which unfortunately is imperfect, gives the *Chândel* genealogy from Raja *Dhânga* to *Kirtti Varmma*, the king before whom the Prabodha Chandrodaya was performed. *Gauda Deva*, the son of Dhânga, is the *Nanda-Ray* of Ferishta who conquered Kanoj in A. D. 1021.

"I have copies of the three great inscriptions at Khajurâho, of which one only has been translated by Sutherland, who misread the date; which is Sâmvat 1056, or A. D. 999. I will send my Chandel inscriptions down to you as soon as I have got them arranged."

The Council reported that they had appointed Hon'ble G. Campbell a member of the Statist. Committee.

The following gentlemen duly proposed at the last meeting were balloted for and elected ordinary members :—

Raja Joykissen Doss Bahadur.
Joseph Agabeg, Esq.
Lieut. T. H. Lewin.
Babu Sarodaprosonno Mookerjee.
A. H. Giles, Esq.

The following gentlemen were named for ballot as ordinary members at the next meeting :—

T. W. H. Tolbort, Esq., C. S. Mozufferghur, proposed by Dr. T. Anderson, seconded by Mr. H. F. Blanford.

Major J. Morland proposed by J. Geoghegan, Esq., seconded by Mr. H. F. Blanford.

Lieut. W. C. Ramsden, 30th P. N. I., Julpygorie, proposed by Capt. H. H. G. Austen, seconded by Mr. Heeley.

Dr. C. F. Tonnerre proposed by Mr. Grote, seconded by Bábu Rájendralála Mitra.

Dr. Fawcus proposed by Capt. Lees, seconded by Mr. Grote.

Dr. David Boyes Smith proposed by Dr. J. Fayrer, seconded by Mr. H. F. Blanford.

The receipt of the following communications was announced :—

1. From Bábu Gopeenath Sen, abstracts of the Meteorological Observations kept at the Surveyor General's Office, for the month of February last.

2. From Professor Bühler, through W. Stokes, Esq., a translation of the part of the Vyávahára Mayúkha relating to ordeals.

Capt. Lees read a letter from Dr. Sprenger prefaced by the following remarks.

" It will be in the recollection of some here present this evening, that in the year 1854, I edited, in the Bibliotheca Indica, a history of the Mohammadan conquests in Syria, under the successors of Mohammad, by a very early writer named Abu Isma'il al-Azdi. The single MS. upon which this text was founded, was old, worm-eaten, and dilapidated, but it was believed to be unique. It was found by the learned Dr. Aloys Sprenger of Calcutta at Delhi, in 1850, as he was rummaging among the remnants of a library belonging to an old spiritual teacher of the last of the Great Moguls. Prior to the publication of this work, this interesting period of Mohammadan history was known to the European reader solely through the medium of the book ascribed to the well-known Arabian author Wâqidy, and once believed to be genuine, but which is now commonly called the pseudo-Waqidy. On this work the simple Ockley based his history of the Saracens, and it was Ockley's history which furnished the distinguished American, Washington Irving with the substance of the stirring narrative he has given us of the Moslim conquests of Syria, under the title of the " Successors of Mohammad." Considering the great importance of

these early conquests for the elucidation and illustration of the march of *Islam* in its progress westward, and the period at which this history was supposed to be written, I am surprised that it did not sooner attract some attention. But it seems to have remained unnoticed, until Professor D. B. Haneberg of Munich in 1860 compared it with the pseudo-Waqidy, in a memoire entitled "*Erörterungen über Pseudo-Wakidi's Geschichte der Eroberung Syriens*," and Monsieur J. de Goeje in 1864, or just ten years after the publication of my text, devoted one number, (No. 2) of his "*Memoires D'Histoire et de Geographie Orientales*," to a review of this work. The object of Herrn Haneberg was, by comparison with Abu Ismail's history, to prove the authenticity of some portions of the false Waqidy. The object of Monsieur Goeje was, by comparing the narrations of Abu Ismail with those of Beladzori and other early authors of the period, and from internal evidence furnished by the work, to prove that Abu Ismail himself was a delusion and a myth, and that his book was no better than the false Waqidy,—a fabrication by some pious writer to incite the Moslims to *Jihad*, or the holy war which has deceived many learned Moslims, as well as Messrs. Sprenger and Haneberg. This opinion of M. Goeje originated in his finding in the Oriental Library of the Academie of Leyden, the same, or a similar work ascribed to another person, incorporated in the history of an author who died in the year A. H. 584; and the misgivings which arose in his mind on the first discovery and perusal of this work were confirmed by a closer examination of it. On a perusal of M. Goeje's memoire in July last, his arguments, however ingenious, did not appear to me fully convincing; but I am, by no means prejudiced in favour of Abu Ismail, nor any other author whose misfortune it may have been to be introduced to the public under my auspices. I would therefore very gladly join M. Goeje in defining the proper position of this book, should I, after a careful balancing of the evidence in favour of, and against, the position taken up by him, be convinced that either from ignorance or inattention, I have given it too prominent a place amongst the works of the first period of the history of the Moslim conquests. For this purpose, I wrote to my esteemed friend Dr. Aloys Sprenger to procure for me the Leyden copy of the work which M. Goeje consulted, or, at least, extracts from it, containing such fuller information regard-

ing the author's sources of knowledge, as would enable me to coincide with my critic, or to throw some fresh light on an interesting subject. Whatever conclusion I may arrive at, I do not think, as a mere matter of opinion regarding this particular author, it is of much moment which of us may be in the right: but I think it of very considerable importance to maintain the integrity and equity of the position, that if fables should not be dignified with the name and rank of histories —histories should not be rejected, or placed in the category of fables or fabrications without a careful and dispassionate examination of the grounds upon which such rejection is made; we may reject, I think, at once and without danger, the miraculous, but if we were to set aside as worthless, all those histories in which we find statements to which we cannot give our unqualified credence, I fear we should have very little left. The ancient Persians have usually been considered the greatest romancers; but as we know more of them, we shall undoubtedly accept much that we have been disposed heretofore to reject. Herodotus, the Father of History, was called, by Plutarch if I mistake not, the "Father of Lies," and though doubtless we must still read his history with some scepticism, recent discoveries have a tendency in quite the opposite direction. Xenophon again is certainly a highly respectable authority, but I have just been reading his Anabasis, the authorship of which, I may add, has long been disputed, and very many of his statements must be taken I fear with a full complement of the grains of salt. And so it is with Titus Livius, Terence, and others of our most venerated Roman friends and acquaintances, whose company we find so pleasant; but whose narratives usually contain something more than the truth. Niebuhr, however, and those who have followed in his wake, have long since told us the rules to follow in such cases. But as stated, it is not by generalities of this kind that I propose to dispose of the case in point. I have lately been absent making a tour in the tea districts of Assam, and having returned with a bad jungle fever, I have had neither time nor inclination for literary pursuits. When absent, I received a letter from Dr. Sprenger telling me that he had written to Dr. Dozy, but had not succeeded in getting what I required. I have again, however, addressed him and I hope he will be more successful, and in the meantime I will ask your permission to read some extracts from a highly interesting letter

received about two months ago from him on this subject, which illness has prevented me from sooner attending to. The view you will observe that he takes of it is, that the charges brought by M. Goeje against Abu Ismail may, in a great measure, with equal justice, be brought against the most highly respected Mohammadan historians, and that, if accuracy of fact be a criterion, Belâdzori—the historian on whom M. Goeje rests his faith, and with whom, as a touchstone, he so frequently compares Abu Ismail to prove his falsity, just as Herrn Haneberg took Abu Ismail as a touchstone to prove that the pseudo-Waqidy was in some parts historically accurate—is not much better than his neighbours. But I must not detain you longer. Such of you as have read M. Goeje's memoire, will perhaps suspend your judgment until I can take up the subject, which as ten years have elapsed since the book was first published, can afford to wait a little longer. In the mean time I will read you the remarks of Dr. Aloys Sprenger of Calcutta."

Dr. Sprenger's letter is as follows:—

Wabern, 7th February, 1865.

"My dear Lees,—With a view of clearing up the geography of the province of Yamáma in Arabia, I read over lately the history of the war against Mosaylima in Tabary and Biládzory. My expectations were very modest. I hoped that the road which the Muslim army marched would be traced, and the part which the tribes along its way took either for or against Islam, (neutrality was impossible,) would be stated. But even herein I was disappointed. I found nothing but insipid stories invented for the edification or amusement of Majlises, and only four geographical names; of which the principal one, that of the town of Yamáma, is wrong. But as it may serve just to show that if Abú Ismáyl contains fables, his colleagues are no better, I will enter somewhat deeper into the subject.

In order to understand what follows, you must make yourself acquainted with the itinerary of Capt. Sadlier, (Account of a Journey from Katif on the Persian Gulf to Yambo on the Red Sea, in Transactions of the Lit. Soc. of Bombay, Lond. 1823, vol. 3, pp. 449—493,) for he followed in the main points the *Hajj* route; and the Muslim army with Khálid at its head cannot have followed another, because the desert south of Midznab renders this circuitous route indispensable.

Khalid must have passed through 'Onayza (apud Sadlier and in our maps, Aneyzeh,) or through Qaryatayn which is only two miles distant from 'Onayza, or through Jarad جرد (the Gorda of Ptolemy,) which is about 15 miles distant; thence to Shaqrá (in my Itineraries, p. 137 erroneously سفيرا and in the Jihánnumá, شعرا p. 543,) thence to the town of Manfúha منفوحة the eastern part of which, as Sadlier informs us, is called Riyádh; Riyádh occurs in the Itinerary of the Jihannum instead of Manfúha. In the old Itineraries, Byna بينة is mentioned as a station instead of Manfúha; Byna being situated close by and comprehended under the name of al-Manáfi*h*, *i. e.* the Manfúhas. In Ptolemy the next station is Biavana. This seems to be derived, not from Byna, but from the diminutive form of this name, Boyayna or Bowayna. Hitherto I have mentioned only the principal stations from here to the south-east. I will enumerate them all. The next station is Jafr (Jihánn: جعر) and in the old Itineraries Sayh السيح which must be situated close by Jafr. Then follow four places within about three miles of each other, at each of which the caravans alight, according to their destination. Those who proceed to Bahrayn stay at Malham (Jihánn:) Malham is close to Qorrán قران and both together are called al-Qiryatán (see Yáqút, v. Qiryatán): Ptolemy therefore calls this station, Giratha. From Giratha the old geographer proceeds to Katara قطر and thence to Gerrha جرعا, which, as Hamdany informs us, is the old name of La*h*sa. Ger'á would not be better transcribed than the Greeks have transcribed, for the R has the accent, and 'Ayn is very appropriately expressed by an aspiration). One or two miles south of Qiryatán lies *H*ajr حجر once the capital of the country, and east from *H*ajr on the foot of the hill of Qaná قنا *H*adyqa, i. e. the garden in which Mosaylima was slain, is situated. This is the station for those who wish to proceed to Yamáma, and in my Itineraries, p. 137, *H*adyqa is to be read instead of *H*orayqa: thence they proceed to 'Irdh, (not 'Arydh,) and thence to the town of Yamáma. The road from 'Onayza to this goes, as I said, generally from N. W. to S. E.

As the point in dispute turns about the relative position of *H*ajr and Yamáma I must strengthen my assertions by other testimonies. Clearest is that of Abulfeda, p. 97. "Some authors say *H*ajr lies one day and one night's journey from Yamáma. In *H*ajr are the graves of the Muslims that have fallen in the fight against Mosaylima.

(Others say) *Ḥ*ajr lies two marches N. W. from Yamáma." This agrees perfectly with the Itineraries, but as we put no reliance upon Abulfeda, I appeal to a man who many years roamed as a Bédouin over those countries,—to Abu-Málek Ahmad b. Sahl Sokhary. He relates apud Hamdány, fol. 122 that he saw near Qáryat-Khadhrá, in the country which was once inhabited by the *T*asmites, (the Jadysites he adds inhabited Khidhrima,) artificial mounds built of clay, 200 yards high, and he was informed that there had been one which was 500 yards high, and from which you could see Yamáma, nay even Bark and Ras (the head of) al-Dám, a distance of two days and two nights. Then he continues, "*we now leave* H*ajr* and go up along the valley of 'Izdh, etc." We see from this that *Ḥ*ajr is different from Yamáma and that it lies close to Qaryat-Khadhra, and that Yamáma is at least two days off. Rás al Dám as he informs us in another place, lies beyond Yamáma. I may add that Yamáma is known as a town up to this day, and *Ḥ*ajr was visited by Ibn Baṭúṭá, (vol. 2, p. 248,) and *Ḥ*ajr as well as Yamáma, as it seems from contemporaneous information, is mentioned by *Ḥ*ájiy Khal, p. 527 comp. p. 528 and 530.

Let us now see what our model historians (Tab. p. 159 et seq., Beladzory, p. 88,) say. When Mosaylima heard of the approach of Khálid, he took a position at 'Aqraba, (according to Beladzory, one mile from Yamáma,) and awaited the arrival of his enemy. 'Aqrabá lies beyond the property (houses, fields, etc.) of Yamáma, says Tabary, on the way towards Nibág; (i. e. 'Onayza which lies in Nibág) adds Yáqút v. 2, p. 266. At 'Aqrabá a battle was fought in which Mosaylima was beat. He retired into the *Ḥ*adyqa Garden, where he was slain, and Yamáma capitulated.

Now in the whole account, not the historians alone, but the traditionists make the enormous mistake to put Yamáma instead of *Ḥ*ajr. To prove that the battle was fought and that Mosaylima was slain near *Ḥ*ajr I might advert to the above details on the geography of the country, according to which the *Ḥ*adyqa lies close to *Ḥ*ajr, and to Yáqút's article, *Ḥ*adyqa, v. 1, p. 292, but I prefer the appeal to Tabary's own testimony, and to Sokhary who has lived in the country. Tab. p. 174, quotes a poem in which it is said that the waters of 'Aqrabá and Malham (not Salham) being tinged red with blood, were carrying the news of the battle to the South. Now it is proved not only by the

above itineraries, but also by recent investigations, that Malham does not lie near Yamáma, but near *H*ajr. Further, the 'Izdh, into which these waters fall, comes from Manfúha, (Hamdány, fol. 119 v.) and flows, as Yáqút (v. 'Izdh) says, from N to S, passing close by Qorrán, (and Malham and 'Aqra) see Yaq. v. Khawárij v. 1, p. 370. Whereas the waters of Yamáma flow in all probability towards N E: consequently the verses can only apply to *H*ajr and its environs. Sokhary, as we have seen, on leaving *H*ajr, surveys the country up the 'Izdh. The third place which he meets in this country, which is covered with villages, is 'Aqrabá "where Khalid's army was defeated in the morning and gained a victory over Mosaylima in the evening."

Certain it is, the fields of battle are close to *H*ajr, and the traditionists, their whole attention being turned to romantic and edifying but very silly tales, pay no attention to facts and place them to Yamáma. There is another point, my dear Lees, to which I wish to draw your attention. A legend says, Yamáma was the name of a Jadysite woman. She had very sharp eyes and descried the army of the Tobba' which came from south western Arabia, at a distance of two days. She gave the alarm, and the Jadysites prepared to oppose the enemy. The Tobba' having taken the town, crucified her for her services, and from that time the towns whose name had been Jaww was called Yamáma. Beládzory thinks that his town of Yamáma, i. e. *H*ajr is meant in the legends. He is wrong; it applies to the town two marches S. W. of *H*ajr which is to this day called Yamáma, and which was once called Jaww جو. Sokhary goes from Bahrayn over Dohrodh دهرض (see Yáqút and Qin' قنع towards the west and says:

ثم ترد الخضرمة جو الخضارم مدينة وقري وسوق فيها بنو الاخضر بن يوسف وهي دار بني عدي بن حنيفة و دار بني عامر و ديار عجل بن لجيم و دير هوذة بن علي السحيمي الحنفي و هي اول اليمامة من قصد البحرين و عن يمين ذلك و ادي من الدام والدام قف يظهر البياض و فيه مياه

"Then you reach Khidhrima; (Khidhrima lies N. E. from the town Yamámá Jihannuma, p. 530. Khidrima is a place in the province of Yamáma and belongs to the Banú Raby'a. Some say it is the capital of Yamáma—Yáqút.) Jaww-al-Khidhárim (i. e. the Jaww near the towns called Khidhrima) is the name of a town, of villages and of a market-place belonging to the Banú Akhdhar. This is the

limit of the district of Yamáma if you go towards Baḥrayn. At the right hand from it is a Wádiy which forms part of al-Dám. Al-Dám is the name of a high plateau, etc. We know quite well, where we are, for we have seen above that Rás (the head of) al-Dám lies as seen from *H*ajr, beyond (S. W.) the town of Yamáma. There is indeed hardly any doubt that by Jaww-al-Khadhárim the town of Yamáma is meant, though the author in other instances calls both the town and the province, Yamáma. Jaww was consequently really the ancient name of the town of Yamáma. As the addition "al-Khadhárim or Khidhrima" it is used merely to distinguish it from other towns called Jaww of which there were as Yáqút says several in Yamáma. Now we turn to Ptolemy, his maps of the interior of Arabia consist of itineraries; and wherever these were complete, the distances calculated at 240 stadia a stage are not entered with great exactness but only in reference of one place to another *in the same itinerary*, and not in reference to places in other itineraries, for the direction in which his routes run, is sometimes totally wrong. Yáqút v. *H*ajar says from Hajar in Baḥrayn the town of Yamáma are ten marches. This is precisely the distance in Ptolemy: four marches Gerrha to Inapha النعف also called نعف الحجر then four marches more to Irala عرمة then two marches to Maocosmo (metropolis a); for Maocosmos can be no other than جو الخضرمة (read: Gao-Khosroma,). Consequently the town had in his time the name Jaww; and Beladzory is wrong in applying the legend to *H*ájr. After this, my dear Lees, we will not enquire whether Beladzory or Abú Ismayl is more trustworthy. The fountain-head, the traditions, consisted in tales, and consequently six of one and half a dozen of the other."

The Secretary read Mr. C. Horne's paper entitled "Notes on Boodh Gya," of which the following is an abstract.

The object of the author in examining the tope at Boodh Gya, had been to ascertain the age of the building, and more especially of the arches, nine of which (3 semi-circular and 6 pointed) existed in and near the tope.

Discussing the opinions enunciated on this head by General Cunningham, who assigns the date A. D. 500; by Mr. Fergusson, who gives that of the 14th century A. D.; and by Babu Rajendra Lal Mitra who considers the temple in question to have been erected by Asoka in the

3rd century B. C., the author proceeds to give his reasons for agreeing with the last mentioned writer, in so far as regards the date of the shell of the temple. He describes the form and dimensions of the building, the bricks used in its construction, and the Buddhist railing posts around, which are identical with those of Bhilsa, and bear an inscription recording them as the "gift of the venerable Kudrangi." He then proceeds to describe the position and structure of the arches, and gives reasons for inferring that they are of later date than the rest of the building, having probably been inserted about 500 A. D., by Amara Sinha by whom the original temple was partially restored. He mentions also the temple of Koch which is in many points similar to that of Boodh Gya, except that it is smaller. This temple has arches similar to those of Boodh Gya, and is in all probability a copy of that building.

The following letter, received from Mr. Horne subsequently to his paper, was also read.

"The junction of the inserted work with the original is clear everywhere. The floor of the upper chamber comes through the wall of the building, *i. e.* the beaten puddled floor line shews a white line, most plain in the photograph. At the sides too the insertion is most plain. The use of different sized bricks in the different arches, whereas those in the body of the building are all the same, would indicate their having been built at a different date, which most probably was long subsequent.

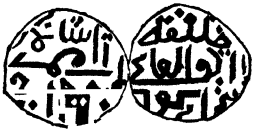
"Nothing in the foregoing paper refers to other structures, (excepting to a few temples in Eastern India), and I am well aware that, as it has been clearly shewn the radiating arch was known to the builders of the pyramids and other very ancient structures, the art of building such arches may have been acquired by travelled Indians; still I am decidedly of opinion that the builders of the original tower of Boodh Gya were not acquainted with the art of constructing a radiating arch, however well they may have constructed them on the horizontal principle."

Babu Rajendralála Mitra said that he was glad to hear that his short and hasty note on the ruins of Buddha Gya had induced Mr. Horne to run over the same ground, and glean so many interesting facts in regard to the old Buddhist temple of that place. When he visited

the temple in 1863, he had no means of ascending to the top of it, and as Capt. Mead was then engaged by order of Government to examine and report on the ruins, he did not wish to anticipate that gentleman. He was obliged therefore to confine himself in his note to the question of the date of the temple. It was gratifying to him, he said, that his opinion on that subject had the support of so able and enthusiastic an antiquarian as Mr. Horne. He was not surprised that Mr. Horne should differ from him as to the date of the arches which exist in the building, and bring them to the 5th century. So unobtrusively are they placed, so covered by plaster, that although within the last 50 years the place had been visited by a great number of archæologists, including such distinguished men as Mr. Fergusson and the late Major Kittoe, they had been observed by none until he called the notice of the Society to them. Major-General Cunningham in a private letter to the President of the Society, dated some months after the publication of the Babu's note, stated that he had observed the arches, but he took them to be modern additions put in by the Burmese repairers of the temple in the 14th century. He did not think them worth even a passing remark in his Archæological Report. Judging from the fact of the materials used in the other parts of the temple, and the arches being of the same character, the symmetry of the building and the use to which the arches had been devoted as mechanical supports for the masonry above them, the Babu was induced to take the arches to be synchronous with the temple, *i. e.* to date from 250 years before Christ, and nothing had as yet been brought forward, he said, which would make him change that opinion. Two reasons suggest themselves to account for the introduction of new arches into an old building, 1, mechanical aid; 2, ornamentation. The Buddha Gya arches are so placed, that they cannot be reckoned as ornament and the practice of making hypertherions with large blocks of stone, was so universal in India; and so obvious and simple a method of bridging the tops of doorways, that it was impossible to suppose that people in this country would reject it in favour of arches for the introduction of which large portions of thick solid masonry had to be cut through, and which involved considerably greater trouble and cost. Mr. Horne's inference of the arches having been built in the 5th century was founded upon the statement of a Sanskrit inscription

translated by Wilkins, but as that inscription had been proved by the Babu to be a forgery, no deduction founded upon it could be correct. But the question was one of demonstrable fact and *â priori* arguments on such a case was utterly useless. The only safe way to decide it was, by a careful examination of the wall, to see whether there was any mark of its ever having been cut open to put in the arches. Such marks can never be effaced, and if no such marks be traceable, the arches must be taken to be coeval with the temple. He hoped some engineer officer, when travelling in Behar, will devote a few hours to this enquiry, and solve this important problem in Indian architecture, the earliest date to which arches may be traced in this country.

N. B. The annexed woodcut represents the Coin alluded to in Mr. Lewis's note, Vide *ante*, Proc. for May, p. 77.



CIRCULAR.

The most important work for the history of India three hundred years ago is the Ayín Akbary.* "It comprises," says the late Mr. Morley, "a detailed description of Akbar's empire in the most extended sense, furnishing the fullest information as to the machinery of government, civil and military, the revenues and the statistics of Hindustan, and concludes with an account of the religions, castes, astronomy, geography, languages, natural history, philosophy, metaphysics and law of India." It is the only work of its kind that has been left to us by a Mahomedan historian.

Two editions of this work have already been published, one at Delhi and the other at Bombay; but both are very imperfect. The English translation of the work by Mr. Gladwin is likewise very defective. Professor Forbes says that "it is more of an abstract than a translation; and is very incorrect."

The Asiatic Society of Bengal is desirous of bringing out, in the Persian Series of the Bibliotheca Indica, a correct and carefully collated edition of this work, and with a view to secure a sufficient number of good manuscripts for collation, solicits the co-operation of its distant members and correspondents in procuring copies, perfect or imperfect, of this interesting history.

RÁJENDRALÁLA MITRA,
Secretary, Asiatic Society of Bengal.

ASIATIC SOCIETY OF BENGAL,
The 20th July, 1865.

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR JULY, 1865.

The Monthly General Meeting of the Asiatic Society was held on the 5th Instant.

A. Grote, Esq. President, in the chair.

The minutes of the last meeting were read and confirmed.

The following presentations were announced—

1. From Lieut.-Col. H. Drury, a copy of his "Handbook of the Indian Flora," vol. I.

2. From Dr. M. Haug, a copy of his "Lecture on an original speech of Zoroaster, with remarks on his period."

3. From Col. A. Fraser, R. E., on the part of Capt. Pollock, two skulls of Andaman pigs.

4. From the Christiania University, specimens of silver and copper currency of Norway.

5. From J. Obbard, Esq., specimen of a Mysis in spirit.

6. From W. Theobald, Esq. Jr., a fine series of Arrakan Corals for selection.

7. From Lieut. Wallace, two tablets of talcose slate with figures of Tibetan Bodhisattvas.

8. From C. Marquardt, Esq, specimen of a Guana from Barrackpore.

9. From T. H. Pritchard, Esq., specimen of a young Alligator.

Read the following note from Col. Tytler containing a description of a supposed new species of Spizaetus from the Andaman Islands.

Description of a new species of Spizaetus.—By Lieut.-Col. ROBT. C. TYTLER *of H. M.'s Indian Army.*

Spizaetus Andamanensis.

"Length from 23 to 24 inches; from bend of wing to tip of longest quill feather, 12 inches; length of tail 9 inches; tarsus 3½ inches; irides yellow; cere dark yellowish green; feet yellow; plumage of upper parts dark brown, many feathers edged with fulvous and showing white under the feathers; lower portion of back and rump light fulvous brown, with dark markings; inner web of quill feathers white and mottled with dark grey; tail dark brown with about 6 bars of a lighter colour; both wing and tail feathers whitish underneath, with dark grey bands; all the plumage of the under parts white, with light fulvous about the throat; flanks, marked with dark streaks; thighs rufous, with light transverse bars; under the bend of the wing there are numerous dark and rufous spots; head and nape fulvous, with dark streaks; the head is crested very slightly; there is a strong resemblance in this species to the *Spizaetus limnaetus*, but it is in every respect a much smaller bird; the tarsus is well feathered down to the toes, which latter are armed with strong claws; the points of the 1, 2 and 3 quill feathers are black, after which they become barred, with broad grey markings: 4th and 5th quill feathers are the longest.

"I found a great many of this species on the branches of mangrove trees in swampy ground, at Port Blair, Andamans, and, judging from the few observations I could make of them in such unfavourable ground, I should say that their food consists of fish and other sea animals, for I found portions of undigested fish, crabs, &c., in the birds I shot. They are by no means timid, on the contrary they allow themselves to be approached within twenty or thirty yards without shewing the slightest alarm."

Read the following extract from a letter from Mr. L. B. Bowring on the subject of the Canarese Inscriptions in Mysore.

"I have had a great many of the Canarese Inscriptions on stone Shásanas photographed, and am going, with the permission of Government, to send the Society a set. There are about 100 inscriptions, but there are none older probably than 700 *years*, and the majority are much more recent. There are so very few learned natives in these parts, that it is difficult to get the old Canarese translated, and some of the

older *Grantham* as well as Canarese inscriptions appear to be undecipherable."

The Chairman reported to the meeting that the Council had, in compliance with Mr. Blanford's application for 3 months' leave, made the following arrangements for the conduct of the Society's business for that period. Mr. Blanford had expressed a wish to be temporarily relieved in order that he might devote himself to the completion of his report on the late Cyclone. Bábu Rájendralála Mitra, having resigned his office of Vice-President, has been appointed Secretary. Dr. John Anderson has been appointed to the Council vice Mr. Geoghegan, gone to England. Bábu Jádava Krishna Singh has been appointed vice-President in the place of Bábu Rájendralála Mitra resigned. Col. J. E. Gastrell has been appointed Treasurer. Dr. John Anderson has also been appointed Secretary.

Mr. Heeley's letter of resignation was read by the Secretary.

The Chairman explained that this letter had been kept back for some months in hopes that Mr. Heeley might be able to resume his duties of Joint-Secretary. Mr. Heeley, however, having been compelled by the pressure of his official duties to press his resignation on the Council, they had now brought it forward, and he hoped that the meeting would agree to the vote of thanks which he would propose in the following Resolution:—

That the thanks of the Society be given to Mr. Heeley for the manner in which he has discharged the duties of Secretary during the last year and a half.

The Resolution, being put to vote, was carried unanimously.

The Council submitted a report on the recommendation of the Philological Committee for the publication in the Bibliotheca Indica of the Ikbál-námeh Jehángíri, a historical work treating of the reign of Jehángír. The Chairman explained that this was one of the histories enumerated by Sir H. Elliot in his Index, but that its value had been apparently rather disparaged by the late Mr. Morley in his Catalogue of historical MSS. in the Royal Asiatic Society's Library. This being the case, the Philological Committee had asked one of their members, Capt. Lees, who had agreed to edit their proposed publication, to draw up a note on the several extant histories of Jehángír's period.

Capt. Lees then read the following paper:—

Note on the Iqbál Námeh-i-Jahángiri and other authorities for the history of the reign of the Emperor Jehángír.

It was proposed by me some time last year, that, for the elucidation of the History of India during the reign of the Emperor Jehángír, the Society should publish in their Persian series of the Bibliotheca Indica, the *Jahángír-námeh* and the *Iqbál-námeh*. The first is an autobiography, and, as giving an account of the life of one of the most powerful of the Mogul Emperors, written by his own hand, and at the same time affording, by the frankness with which the author dilates upon his own crimes, follies, weakness and vices, good proof of its truthfulness, may be considered one of the most valuable relics of the History of India we possess. In no other work can we obtain better or more information regarding the reign of this monarch, than is to be found in the *Jahángír-námeh*. It might have sufficed then for the history of this period: but an autobiography, however honest and truthful, is always open to suspicion, and as the *Iqbál-námeh* is a contemporaneous history, and was written by Motamad Khán, who was in constant attendance on the Emperor, and the book is very much smaller than the autobiography, it was considered desirable to publish it as supplementary and corroborative of the memoirs.

During my absence from Calcutta, however, the *Jahángír-námeh* was published by the Literary Society of Upper India, under the name of the *Túzuk-i-Jahángíri*, and it became unnecessary to publish it in our series, the object of which, as before mentioned, is to place within reach of the future Historian, the materials for founding a good History of India, under the Muhammadan dynasties which have ruled over her destinies.

It became a question then whether, as we had been forestalled in our intention of publishing the *Jahángír-námeh*, we should not abandon the supplementary work also; but the Philological Committee decided that notwithstanding our inability to give in our series as complete a view of the occurrences of this reign as we had originally intended, the necessity for a history from an independent authority was not removed; and on this ground they recommend its publication to the Society.

But before adverting to this history and its author, I must ask permission to say a few words about the other work, regarding which some controversy has taken place and many doubts have been expressed.

In 1785 Mr. James Anderson translated, in the "Asiatic Miscellany," some extracts from a work which he styled: "The Tuzuk-i-Jehangíri or Memoirs of Jehangir written by himself, &c., &c.," and other portions of the same work were published in 1788 by Gladwin in his History of Hindustan. In 1829 Major Price published, in the Oriental Translation Fund's Series, the translation of a MS. which he also entitled "The Memoires of the Emperor Jehangir written by himself." On the publication of this latter work, that learned and accurate Oriental scholar the late Baron de Sacy at once detected and pointed out the differences between the two original texts from which the translations were made, which he rightly conjectured could not be accounted for by assuming the work styled the Tuzuk to be an abridgment of that which Price called the "Memoires." In preparing his Catalogue of the Historical MSS. in Arabic and Persian in the Royal Asiatic Society's Library, the late Mr. Morley, struck with the very singular distinction pointed out by de Sacy, made some investigations into this very interesting subject, and these investigations resulted in his finding an imperfect MS. which agreed so closely with the extracts published by Anderson and Gladwin, as to leave little doubt on his mind that the works were one and the same, and as surmised by de Sacy altogether different from the "Memoires" translated by Major Price. Further search resulted in the discovery of two complete copies of the MS. in the Library of the India House, which taken in conjunction with his own, satisfied Mr. Morley that there were two texts of the "Memoires," though doubts might still exist as to which of the two was the autobiography of the emperor. The Baron de Sacy without questioning the authenticity of Price's text, was of opinion, from the exaggerated account of property and expenditure, the number of horses, elephants, cost of buildings, &c., and other internal evidence furnished by the book itself, that that text had not so great a right to be considered the work of the emperor himself as the MS. which served both Anderson and Gladwin. And I must say that there is much of reason in the remarks of this illustrious *Savant*, for on no other grounds than the assumption of a complete revolution

of weights and values, is it possible to reconcile the exaggerated estimates we find in Major Price's text, with sound sense. But Mr. Morley, on the contrary, considers the authenticity of this latter work placed beyond the limit of doubt, by the fact that the MS. of it in the Royal Asiatic Society was written A. H. 1040 (A. D. 1630) or only three years after the death of the imperial author, and he reasonably assumes that "a work transcribed so soon after the author's death could scarcely have been foisted on the public, if a forgery." Anderson's and Gladwin's text is a very much larger work than the text of Price, the style is more elaborate, and it has been furnished with a lengthy introduction, by Mohammad Hádi, who has also continued the biography from the beginning of the 19th year of the Emperor's reign, to his death in A. H. 1137. This text Mr. Morley distinguished, by calling it the *second* edition of the memoirs, the *first*, he ventured to conjecture, being a sketch made prior to the preparation of the more enlarged work. From the great discrepancy between the two, however, he was disposed to think that Jahángír, like Tímúr and Bábar, wrote his autobiography in the Chaghatai language, and that the versions we now possess, are more or less perfect translations from the original. M. Garcin de Tassy on the other hand, with his natural bent for every thing Hindustani, thinks that the *Malfúzát-i-Jahángírí* or the version of the memoires in that language should be considered the work of the emperor, because it is not stated that they are translated from the Persian. But I do not attach much weight to either of these conjectures, for born in India of a Hindustani mother, I think it highly improbable that Jahángír was acquainted with Chaghatái Turki, and in the time of Jahángír, if such a language as Hindustani can be said to have been current, court memoires were not written in it.

It is apparent then, that considerable uncertainty exists as to which of these works, which following Mr. Morley, I shall intelligibly still distinguish by designating the *first* and *second* editions, of the memoires was written by the emperor himself. Of the *first* no text has ever been published; but we have the translation of Major Price which is a very good one, and of the *second* the complete text, with the preface and continuation by Mohammad Hádi, has just been very creditably edited by Sayid Ahmad. But it is not in the matter of

authorship only that differences of opinion exist regarding these memoires, the two works are called indiscriminately, the *Túzuk-i-Jahángírí*, and the *Jahángír-námeh*, the word *Túzuk* being spelled in every conceivable way,—توزك, تزوک, تو زوک and تزك; but I can find no authority whatever beyond that of scribes for entitling either work the *Túzuk*. The autobiography of Jahángír "the greater portion of which" to use the words of 'Abdal-Hamíd Lahauri, "his Majesty wrote with his own hand," is styled by every Muhammadan author whom I have ascertained to have quoted it, the *Jahángír-námeh*, and by that name alone does it seem to have been known in the reigns of the author, Sháhjahán, and Aurung-zéb, and how the title *túzuk* came into use I do not know. Its application, however, in later years, seems to have been very general, as it is written,—but always on the cover, the fly-leaf, or in the rubric—in several of the copies consulted by Mr. Morley, and in some instances, to ensure accuracy, somehow, one name is written inside and the other outside. But the most singular error of all, is that which appears on the title page of the text so lately published by Sayiid Ahmad, who, as if desirous of affording his readers the greatest choice has entitled the work: "The *Túzuk-i-Jahángírí*, which is called also the *Jahángír-námeh* and the *Iqbál-námeh-i-Jahángírí*."

I should have found it difficult to account for this mistake; but an editorial foot-note to the first page of Mohammad Hádi's introduction, I think explains how the Sayiid was misled. He there states, and states correctly that the emperor wrote his own memoires down to the middle of the seventeenth year of his reign, after which he employed Motamad Khan, who is the author of the *Iqbál-námeh*, as his amanuensis. The same statement is made by Gladwin: but Mr. Morley objects that he has given no authority for it. His authority is the very best, the Emperor himself, who at the point where his own portion of the work breaks off, says:—"By reason of the weakness which for two years I have experienced, and which still afflicts me, my brain and heart did not support me in drafting the events and occurrences [of my life]. About this time Motamad Khan returned from service in the Deccan, and had the good fortune to make his obeisance, and since he was one of those servants who best understood my temper, and one of my most intelligent pupils, and in addition,

had formerly been employed in the performance of this service, and the recording of these events appertained to the duties of his office, I gave him my commands, that from the date up to which I had written [my memoires] he should continue them, and add them to my draft; and whatever occurrences should take place subsequently, these he should enter in a diary, which having submitted to me for correction, he should afterwards write out fairly"

This passage explains away much that was in doubt regarding these memoires. It gives us the emperor's own authority for the fact that he was in the habit of writing drafts of his autobiography, that prior to his discontinuing to write his memoires with his own hand, Motamad Khan had been employed in aiding him, probably in revising or correcting his MS.; and that the practice of entering the occurrences in a diary (*roz-námchah*) was still continued after the MS. was drafted by Motamad Khan, and corrected by the Emperor. It is not improbable, then, that the whole of the *Jahángír-námeh*, or autobiography proper, which Mr. Morley calls the second or Mohammad Hádi's edition, and which is that published by Saiyid Ahmad, may have been written in the form we now have it, by Motamad Khan, who, would seem, for some considerable time at least, to have acted as Private Secretary to the Emperor. And this supposition is in some measure supported by the fact, that after Jahángír gave orders to Motamad Khan to continue his memoires, he did so for two years, and there is no perceptible change in the style of the work. Again, as proof of the intimate relations that existed between Motamad Khan and his royal master, Jahángír in his memoires states, that in setting out for Kashmir he gave instructions not to the Vazir but to Motamad Khan, that no one should accompany him except the Prime-minister, Asif Khan, and a few necessary servants; and while on this journey, on the occasion of his elevation to the office of Paymaster General, in bestowing on him a *khil'at*, he took off his own cloak and gave it to him.

Why the continuation of the memoires by Motamad Khan should have stopped short at the nineteenth year of the emperor's reign is unexplained; nor, seeing that Motamad Khan carried his own history down to the date of the Emperor's death, can I in any way account for it, other than that His Majesty found it irksome to revise and correct the diary of his Secretary. That Mohammad Hádi had no royal data

for the continuation of the history, is clear from the statement he has made in his preface, that, having none such, he compiled it from several trustworthy sources.

But if whether or not Jahángír wrote the second edition or larger work, is doubtful, there is no doubt whatever that he did write with his own hand, a history of his life up to the seventeenth year of his reign. 'Abdal-Hamíd-i-Láhauri the author of the *Badsháh-námeh*, a history of the reign of Sháh Jahán, says, that at the time he was writing his work, this copy was in the Royal Library, that the greater portion was written by Jahángír himself, and the lesser by Sháh Jahán, whom his father, *having a disinclination to writing*, ordered to imitate his hand-writing, and a fine specimen of the hand-writing of this emperor (Sháhjahán) will be found in the very beautiful copy of the second volume of the Badsháh-námeh which I have laid on the table.

Turning to the first or smaller edition, it will be found that the copies differ considerably. One in my possession is interspersed with verses, some tolerably lengthy, which were not in that used by Major Price. Of the three copies consulted by Mr. Morley each differed more or less from the other in fulness, in the preface, or in the moral precepts appended. The author of the *Siyaral-Motakharín* has transferred this book to his pages, but his MS. is not the same as two copies I have had access to, or else, for purposes of deception, he has taken very great liberties with it. The author of the *Tárikh-i-Salátin-i-Chaghtai*, whose name, by-the-by, was also Mohammad Hádi, quotes the *Jahángír námeh*, but the passage bears no similarity to any to be found in any of the MSS. of either of the editions of that work which I have had the opportunity of consulting.

Now these discrepancies in texts do not, at first sight, certainly help us to a solution of the difficulty; but it is stated that when Jahángír had written the account of the first twelve years of his reign, he distributed copies of the work largely amongst his children and the principal officers of his court. Hence, in my opinion, the greater frequency of the first edition, and as it was no doubt subsequently touched and re-touched by the master's hand, hence from the number of copies made at one and the same time, the discrepancies which are so noticeable, have crept into the work.

But, regarding the name of the first edition, I would mention that on the cover of a copy of this MS. among the books found in the city after the siege and recapture of Delhi in 1858, it is styled the *Wákiát-i-Jahángíri*. This is the name also under which it appears in the authorities for this period given in Sir Henry Elliot's Muhammadan Historians, and very singular to relate, this is the title that Major Price, in the preface to his translation, says he would have affixed to it, had it been permissible to invent a title.

Other authorities for the history of this period, are the *Maásir-i-Jahángíri* of Kámgár Hosaini, who wrote his work three years after the death of Jahángír, with the approval of the emperor Sháhjahán, the *Haft Fath-i-Kangra*, the *Biyádh-i-Jahángíri* and the *Tohfat-i-Sháh-Jahángíri*. The two last mentioned works I take from the list of authorities given by Sir Henry Elliot; but I have not seen them.

I regret to say that press of business has prevented me from completing this note in time for this evening, and that like the autobiography of Jahángír, it terminates here abruptly, at the very point unfortunately where it ought to have begun,—that point where I should notice the *Iqbál-námeh* of Motamad Khan. After what has just been stated of the author, however, it seems hardly necessary for me to enter into any very elaborate defence of the recommendation of the Council, for, where the sole authority for this period of the History of India which has hitherto served the public, is the biography of the Emperor written by himself, it can hardly be questioned that a history by one so intimately connected with this monarch, and in every respect so competent an authority, would be a desirable work to publish, nor should I have thought it necessary to justify my own opinion on the subject, were it not that the President has drawn prominent notice to some doubts expressed in our Philological Committee, based on an opinion expressed by the late Mr. Morley in his Catalogue before alluded to. These remarks which I will read to the meeting are as follows:—

'This work is not held in much estimation in the East, principally on account of its style: but besides this, it abounds in errors and omissions, and is in every way inferior to the autobiography or memoirs of Jahangír.'

Mr. Morley has given no authority for this statement, and I am

quite at a loss to understand it. I venture to think, however, that he would not have made these remarks, had he been aware, which it is evident he was not, of the part taken by the author of the *Iqbál-námeh* in the preparation of the autobiography of the emperor, on which, in his notice of that work he has lavished so much praise. What Mr. Morley means by omissions in an original work I do not know. One history may be fuller and enter into greater detail than another, but though we may call the latter an abridged history, we cannot say that it contains omissions; and as to the errors of the *Iqbál-námeh*, with no other authority but the autobiography to compare it with, Mr. Morley was not in a position to say that either work contained errors. On the contrary did many of the statements to be found in the *Iqbál-námeh* differ from those made in the autobiography, it would have made the work all the more valuable, but I do not find such to be the case. As to the style of the work, again, I think it in no way detracts from the merits of the book that the author has eschewed bombast, and after the evidence I have produced under the emperor's own hand, it will certainly be admitted, that Motamad Khan, was not only well qualified to write a history of his life, but competent also to express himself in good language. But passing from negative to positive arguments, I would observe that all the respectable Muhammadan historians of subsequent periods, who have alluded in their histories to the events of the reign of Jahángir, quote the *Iqbál-námeh*. Amongst these I would mention the author of the *Tárikh-i-Salátín-i-Chaghtai*, and 'Abd-al-Hamíd-i-Láhaurí, the author of the *Bádsháh-námeh*, which I hope soon to see published in our Series. I hold in my hand, moreover, a biography of the Emperor Jahangír which Mr. Morley had not the good fortune to be aware of. It is the *Maásir-i-Jahángírí*, written by Kámgár Hosainí, and written, as stated in the preface, with the express approval and sanction of the emperor Shahjahán. Now, though, during his lifetime, Sháhjahán did not show any very remarkable amount of filial affection, he had some literary attainments, and probably an average amount of family pride. It is extremely unlikely then, that he would authorize an incompetent author to write the life of his father; and, to adopt an idea of Mr. Morley's, more improbable still, that that author, three years after Jahángír's death, which is all that had passed when he wrote his

history, would be in a position, intentions of flattery apart, to make erroneous statements regarding his reign. Thousands of people were living at the time, who were eye-witnesses of the events that occurred. It was with some surprise I found, then, that Kámgar Khan Hosainí made no allusion to Motamad Khan's work in his preface. After a cursory examination, however, I discovered that there was good cause for this omission. He has transferred a good portion of the *Iqbál-námeh* to his pages, the first portion indeed being copied verbatim, and the remainder is almost, if not wholly, based upon it. We need hardly go beyond this for an opinion as to the estimation in which the work was held in the East, by the most competent persons, at the time when the public were best able to judge of its merits; but I will adduce one more proof of the propriety of the recommendation made by the Council, viz., that the books originally proposed for publication to the Philological Committee, the *Jahángír-námeh*, and the *Iqbál-námeh-i-Jahángírí*, are the authorities on which the author of the *Kholásat-al-Tawárikh*, who lived in Aurung-zéb's time, has based his account of the events of this period. There are few, if any, general histories of India, which, in my opinion, are better or more trustworthy than this work, and it is satisfactory to me to find that my opinion is so well supported. In speaking of the *Iqbál-námeh* moreover the author specially remarks on the style of the book, which he says is clear (واضح) while that of the *Jahángír-námeh* is regal (بادشاهانه). The Society may then, I think, without any misgivings, accept the recommendation of the Council, and authorize the publication of the *Iqbál-námeh* in the Persian series of their Bibliotheca Indica.

The Chairman expressed a hope that the paper which had been just read would be held to bear out the Council in their adoption of the Philological Committee's report. It had been their practice in selecting works for the Persian series of the Bibliotheca Indica to publish such as were considered to be reliable, though, as in the case of Budaoni's history of Akbar lately published, that author's narrative might differ from that which had hitherto been accepted.

The formal sanction of the meeting was then taken for the proposed publication.

Letters from Mr. J. W. McCrindle, Dr. F. N. Macnamara, Capt. D. Macdonald, Capt. T. G. Montgomerie, Rájá Banspat Singh, Mr. A.

B. Sampson and Bábu Govin Chunder Sen, intimating their desire to withdraw from the Society, were recorded.

The following gentlemen, duly proposed at the last meeting, were balloted for and elected ordinary members.

T. W. H. Tolbort, Esq., C. S.
Major J. Morland.
Lieut. W. C. Ramsden.
Dr. F Tonnerre.
Dr. Fawcus.
Dr. D. B. Smith.

The following gentleman was named for ballot as an ordinary member at the next meeting.

S. Fenn, Esq., proposed by H. F. Blanford, Esq., and seconded by the President.

The receipt of the following communications was announced.

1. From Bábu Gopinath Sen, Abstract of the Hourly Meteorological Observations taken at the Surveyor General's Office in March and April last.

2. From the Rev. C. Parish, a few notes of a trip up the Salween.

3. From Bábu Rájendralála Mitra, a note "on the Sena Rájás of Bengal as commemorated in an Inscription from Rájsháhi."

The Bábu read his paper, of which the following is an abstract.

The inscription was found in that part of the Rájsháhi district called the "Barrin," close by the village of Deoparah, Thannah Godágari. Mr. C. T. Metcalfe, C. S., to whom the Society is indebted for the stone which bears the inscription as also for a transcript and English, Bengali and Sanskrit translations of the record, says that it was lying in a jungle near a flight of black stone steps, half buried under earth, and close by an old tank. Its purport is the dedication of a temple and a tank to Pradyumnesvara, a form of S'iva who was the tutelary deity of the Sena Rájás. The names recorded are those of Vijaya Sena, Hemanta Sena, Sumanta Sena and Víra Sena, the last three being new to history. The name of Vijaya occurs in the Bákerganj plate decyphered by J. Prinsep, and was an alias of Sookh Sena, the father of Ballála Sena. The date of the record, the Bábu said, must be the middle of the 11th

century, and he proved it by a quotation from the *Samaya Prakás'a* which says that Rájá Ballála Sena completed his work, the *Dánaságara*, in the S'áka year 1019=A. D. 1097, before which Ballála must have lived for many years to compile so large a work. A copy of the work has lately been found, and in its introduction the names of Ballála's father and grandfather Vijaya and Hemanta have been met with. Víra Sena, the Bábu assumes to be the proper name of Ádis'úra, the first prince of the Sena Dynasty, *S'úra* being a synonym of *Víra* "a hero," and *Ádi* indicative of his being the founder of the family. His age, deduced by calculating the *paryáyas* of the Kulina Káyasthas, and by the usual average of 18 years to each reign, has been ascertained to have been between 964 and 1000 A. D. Adverting to the caste of the Sena Rájás, the Bábu states that the popular belief of their having been Vaidyas was unfounded and opposed to the testimony of authentic records. The only two inscriptions of the Sena Rájás which have been hitherto met with, describe them to have been descendants of the Moon or Kshetriyas of the Lunar race. Haláyudha, who lived in the court of Lakshmana Sena and was his chief law officer or Lord Chancellor—*Dharmádhyaksha*, states that he was a Kshetriya, and Kuláchárya Ṭhákura, who lived about the end of the 15th century, calls Ádis'úra the "sun of the Kshetriya race" *Kshetriya vañsa hañsa*. The Bábu therefore takes them to have been Kshetriyas, and accounts for their having been called Vaidyas by supposing that they must have belonged to that branch of the Kshetriyas called *Ambashṭhas* (the *αμβάσται* of Ptolemy) and were in later days confounded with the mixed caste of *Ambashṭhas* or Vaidyas. Abul Fázel and Pere Tieffenthaler say that the Senas belonged to the Káeth caste which is, according to the Bábu, not remarkable, for the Káyasthas have, from their first advent in Bengal, more than once put forth their claim to be reckoned as Kshetriyas.

4. From Bábu Chunder Sikar Chatterjea, through the Surveyor-General of India, Note on a Whirlwind at Pundooah.

The following letter accompanied the communication.

"I beg to enclose herewith a copy of a sketch and report sent at my request by Mr. Thompson's Sircar, Bábu Chunder Sikur Chatterjee, of a small cyclone that occurred about three weeks ago near Pundooah. I thought it would be interesting, as we seldom have an opportunity

of seeing the limits both of the outer circumference and of the vortex of a circular storm so clearly defined, eleven Telegraph posts being thrown down on one side of the centre in the direction of its course and nine Telegraph posts being thrown down on the other side of its centre in an opposite direction, its greatest diameter was about one mile, and the diameter of its vortex about 200 feet, its progress was at the rate of about 10 miles an hour or less, the velocity of its revolutions I have no means of ascertaining, but its disastrous effects, when at its height, appear to have almost equalled those of the great cyclone in October last, only of course within much smaller limits."

The following is a description of the Whirlwind.

"The cyclone commenced about 3 miles on the south west part of the Ranagore village at about 18 o'clock with very slight violence, and did not cause any damage to that portion, but when it got to about half a mile distance from Ranagore, it took its greatest violence at about 18 h. 15 min., it went whirling round through Ranagore village and put that village to thorough destruction, and then it went towards the north-east corner, passed the Railway about 18 h. 20 min., blew down 20 Telegraph posts, and broke some bricks off the parapet walls of the bridges Nos. 131 to 133 without doing any material injury to them. Then it went on in the same direction, passed through a portion of the village named Tinnah, blew down about 40 houses, some trees, &c. &c., went on about three miles further than Tinnah village; at last it got to a marsh land where it blew a lot of fishes with the water out of the marsh, &c., then stopped about 18 h. 30 min.

"In Ranagore village 300 houses, of which one was a pukka building and the rest of clay built walls and strong thatching of timber and bamboo work, have been blown down and afterwards set afire. Seventeen men were killed, of whom 15 died the same night, and 2 died two days after the occurrence, on account of the walls of their houses falling on them; and in Tinnah village about 40 houses were blown down and through that there were three men killed. A donation for the relief of the sufferers has been sent by the Government."

Mr. W. Theobald, Junior, read the following note on the discovery of stone implements in Burmah and a memorandum on additional discoveries in India.

Note on the occurrence of Celts in British Burmah.

The interest awakened by the first discovery of celts in Bundelkand, seems destined to receive additional impetus in whatever quarter a really effective search is made for stone weapons. In the Madras and North-west districts, the researches of Dr. Oldham and Messieurs Foote and King of the Geological Survey, and the independent labours of Messieurs Cornish, Fraser and Robinson have brought to light an astonishing number of flint weapons of the ordinary chipped or antique type, a notice of which has already been laid before the Society and a more elaborate and detailed account of which has just been published with plates in the Madras Journal. I have myself now the pleasure to announce that stone weapons are also met with in Burmah, somewhat sparsely within the British boundary and not much below Prome in Pegu Province, but more abundantly above the frontier, along the upper valley of the Irawadi, if we may place reliance on native testimony in the matter.

The Burmese call these weapons Magio or Thunder-chain (Anglice Thunderbolt) and believe that they are projected from the skies with lightning, and not only prize them as medicine, but as rendering the owner of one invulnerable. On this account they are very difficult to procure, and I have been asked 50 rupees for one of the ordinary smooth Indian type, and 15 rupees is a common price to pay for anything pretending to be authentic. The value of these implements has possibly led to imitations being made, but little skill is required to detect such imposture.

The accompanying sketch* of Burmese celts shows the different types which have hitherto occurred to me.

Nos. I. II. III. and VIII. may be varieties of one type. They are all smoothed and well polished and are unlike any weapon I am acquainted with from India. No. V. is of a common Indian type of smoothed celt, (compare with No. XI. from Bundelkand) whilst Nos. IV. and VII. are again entirely different and have evidently been used in a handle, which I do not think was the case with any of the others. No. VI. is probably a charm or ornament, and may possibly be manufactured recently out of an old celt, but its probable history or use is extremely doubtful.

* The sketch has not been published.—EDS.

According to native testimony, both bronze and copper celts are known, but are so highly valued as never to be parted with, and the only one I ever saw was a palpable imitation. Mr. Foote in his very interesting paper on stone weapons from Madras has made a slight mistake which I may as well here correct. His words are: "Excepting a doubtful fragment of a stone implement found by Mr. Theobald of the Geological Survey of India in the Gangetic alluvium near the mouth of the Soane (Son) no traces of chipped stone implements had previously been discovered in India." Now the only fragment of a celt found by me in the alluvium of Behar was a fragment of a celt of the polished, not chipped type. This fragment was figured in the Journal and no more doubt attaches to it than to the most perfect weapon existing. An extremely dubious celt was likewise figured, so roughly shaped, as hardly to deserve the name of being chipped, but which I consider an authentic tool. The only other doubtful case I now produce, No. IX. and it certainly is doubtful if it is not merely an accidentally weathered fragment of hard tessalated rock, but it certainly is not of the chipped type. At the same time, long before my attention was awakened on the subject, I believe I have met with silicious flakes in the alluvium, which had attracted merely a cursory notice, and were referred by me to old gun flints, but which I now believe to have been of a very different character. No record, however, was ever made, and to Mr. Foote undoubtedly belongs the credit of first announcing the discovery of chipped celts in India—though anticipated by Mr. LeMesurier as regards arrow-heads. The slight stone flakes used by the Andamanese, though of course very similar, cannot fairly be placed in the same category with the established forms of celts in habitual use among preadamite man.

"The following note, I now read, on stone weapons found in Bengal is by Mr Ball of the Geological Survey.

Stone Implements found in Bengal, 1865.

The circumstances under which these implements were found are as follows: being somewhat sceptical as to the artificial origin of certain celts I had seen at different times, I was anxious to make a collection of obviously naturally fractured pebbles, in order that I might see how closely their forms would approximate to those of undoubted

artificial origin. With this intention I examined on the Therria coal field, various heaps, and spreads of pebbles derived from the conglomerates which are so characteristic of the Lower Damoodah series of rocks. These pebbles consist of gneiss, quartzite and sometimes even granite; a large proportion of them are jointed, or perhaps to speak more correctly cracked, the planes of easy fracture being inclined at a small angle to the major axis. Supposing several of such planes to co-exist in a pebble, a smart blow at either apex would produce a disunion of the parts, and a stone would be the result which might be mistaken for a bonâ fide implement; but such a stone would lack the chipped appearance which all those of undoubted artificial origin possess. No. 3 of my collection may have been the result of natural causes; but it is difficult to conceive any natural causes by which such a symmetrical form as No. 1 could have been produced, and the same applies but in a less degree, to No. 2.

To describe the several implements in detail.

No. 1. So made from a pebble of greenish quartzite, upon one side the original surface is still seen. While resembling some of the Madras specimens, it differs from all of them that I have seen in the ratio which its thickness bears to its length amounting as it does to $\frac{1}{2}$. Its strength suggests that it may have been used in the manufacture of others. It was found upon the surface near the village of Kunkune, 11 miles S. W. of Govindpoor on the Grand Trunk Road.

No. 2. Is made of a micaceous quartzite, it resembles closely some of the Madras specimens: in it also there is a face consisting of the original surface. It was found by Mr Hughes in the Boeharo coal field.

No. 3. Is of doubtful artificial origin: its shape suggests that it may have been used as a spear or dart-head. It was found not far from the locality given for No. 1.

It is not improbable that more extended investigations in the neighbourhood of the localities given, may bring abundance of these implements to light. It will be interesting to find in Bengal, evidences such as have been found in other parts of India of an early primitive race of men.

The Librarian submitted a list of the additions made to the Library since the meeting held in November last.

LIBRARY.

The following are the additions made to the Library since the meeting held in November last.

Presentations.

*** *The Names of donors in Capitals.*

The Flora of the Jhelum District of the Punjab, by Dr. J. E. T. Aitchison.—THE AUTHOR.

The Book of the Aquarium, by S Hibberd.—LIEUT. R. C BEAVAN.

The Utilization of Minute life, by Dr. T. L. Phipson.—THE SAME.

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———— Reader.—THE SAME.

———— Almanac for 1862.—THE SAME.

Barth's Scripture History.—THE SAME.

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Acts of the Apostles, with a Map.—THE SAME.

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१५९	हरिनामामृत व्याकरण	रूपगोस्वामी
१२३	स्तवमाला	जीवगोस्वामी
१२३क	रसाम्बुधि	चैतन्यचन्द्र
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१२३ग	श्रीवृन्दावननिर्णय	वेदव्यास
१२३घ	पूजापद्धति	
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१२३छ	व्रजकुञ्जनिर्णय	
१२३ज	कृष्णकर्णामृत	श्रीलीलाशुक
१२३झ	त्रैलोक्यविजयनामक नृसिंहकवच	वेदव्यास
१२३ञ	वृन्दावनशतक	प्रबोधानन्द सरस्वति
१२३ट	भगवत्सिद्धान्तसङ्ग्रह	
१२३ठ	त्रैलोक्यमङ्गल कवच (दुइखाना)	शिव
१२३ड	गौराङ्ग कवच	
१२३ढ	रसकल्पसारस्तव	वृन्दावनदास
१२३ण	विलापकुसुमाञ्जलिस्तव	
१२३त	वेणुगीत	वेदव्यास
१२३थ	गोपालगायत्रीव्याख्या	
१२३द	भगवद्गीता	वेदव्यास
१२३ध	विष्णुपञ्जर स्तोत्र	वेदव्यास
१२३न	गीतामाहात्म्य	वेदव्यास
१२३प	श्रीराधाकृष्णपदचिह्न	
१२३फ	कृष्णाष्टोत्तर शतनामस्तोत्र ..	वेदव्यास
१२३व	पूजापद्धति (खण्डित)	
१२३भ	श्रीराधाकवच	शिव
१२३म	वैष्णवदीक्षापद्धति	
	एतद्व्यतिरिक्तमत्र नानाविधखण्डिततन्त्रमन्त्रकवचादि वर्त्तते	
१५१	बृहज्जातक	रामहरि
४७	सारात्सारतत्त्व	

१२०	राधाकृष्णलीला	
१२०क	गौराङ्गाष्टक	
१२०ख	उपासनार्चना साधनपद्धति	
१२०ग	श्रीकृष्णकवच	
१२०घ	श्रीकृष्णपूजापद्धति	रघुनन्दन
८५	भक्तिरत्नावली	विष्णुपुरी
१२६	अष्टावक्रसंहिता	अष्टावक्र
१	गोपालतापिनी सटीका	
१२५	ब्रह्मसंहिता	ब्रह्मा
६२	चैतन्यचरितामृत	गोपाल
६२क	कृष्णयामलतन्त्र	
६२ख	नवद्वीपपरिक्रमा	
६२ग	श्रीगुरुवैष्णवाष्टक	
६२घ	वैष्णववन्दना	
६२ङ	अद्वैताष्टक	सार्वभौमभट्टाचार्य
६२च	गोस्वाम्यष्टक	श्रीनिवासाचार्य
६२छ	राधिका स्तोत्र	वेदव्यास
६२ज	श्रीगुरुस्तवराज	शिव
६२झ	चैतन्यरत्नमाला(खण्डिता)	
६२ञ	चैतन्याष्टोत्तर शतनाम	
६२ट	श्रीनित्यानन्दयुगलाष्टक	श्रीवृन्दावनदास
६२ठ	चैतन्यचन्द्रामृतटीका(खण्डिता)	
१५७	अद्भुतसङ्ग्रह	शिव
८०	रसामृतसिन्धु	
३५	प्रयोगामृत	
३५क	भैषज्यरत्नावली	
३५छ	चरक (शारीरकस्थान)	चरकमुनि
३५ग	वाजीकरणाधिकार	
३५घ	योनिव्यापत्	
३५ङ	भावप्रकाश	
३५च	कुसुमजननविधि	भावमिश्र

३५क	बालतन्त्र	कल्याण
३५ज	कुब्जिकातन्त्र(असम्पूर्ण)	
५६	श्रीकृष्णचैतन्यचरितामृत	शिवानन्दसेन
६७	भाषा पयारग्रन्थ	वासुदेवघोष
६७क	चमत्कारचन्द्रिका..	नरोत्तमदास
६७ख	गीतगोविन्द..	जयदेव
६७ग	भाषाग्रन्थ (खण्डित)	नरोत्तमदास
६७घ	कतिपय सङ्कृष्टवाक्य	
६७ङ	गुरुदक्षिणा	
१५५	क्रमदीपिका	केशवाचार्य
८३	माधुर्यकादम्बिनी	
१५२	खरोदय भाषाटीका सहित ..	शिव
१५२क	नवग्रहस्तव	शिव
१५२ख	पञ्चखर	प्रजापतिदास
१५२घ	ज्योतिःकर्मविपाक	भृगु
१५२ङ	सामुद्रिक	
१५२च	सिद्धान्तरहस्य	राघवचक्रवर्त्ती
१५२छ	नीलकण्ठताजिक	नीलकण्ठ
०	श्रीमद्भागवतसूचिका	अनूपनारायणतर्कशिरोमणि
८७	गीतावली	
८७क	पद्यावली	
४६	रत्नावली..	कौशिक श्रीगौरीदत्त पण्डित
४६क	वाग्मतीतीर्थयात्राप्रकाश.. ..	गौरीदत्त
५०क	गौरिकाङ्गलिका	शिव
५०ख	बृहद्गीतमीतन्त्र	शिव
५०ग	श्रीकृष्णचिह्नवर्णन	
४	वृन्दावनलीलामृत	
	मथुरामाहात्म्य	वेदव्यास
१११	गोविन्दोपासनार्चनपद्धति	
१२६	पद्यावली	
	लघुहरिभक्तिविलास	रूपगोस्वामी

July 5th, 1865.

Lal Gopal Dutt.

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR AUGUST, 1865.

The monthly General Meeting of the Asiatic Society of Bengal was held on the 2nd instant.

A. Grote, Esq., President, in the chair.

The minutes of the last meeting were read and confirmed.

Presentations were announced—

1. From the Boston Society of Natural History, several Nos. of the Journal and Proceedings of the Society.

2. From the Imperial Society of Cherbourg, Vols. IX. and X. of the Memoires of the Society.

3. From W S. Atkinson, Esq., a fine collection of Lepidoptera.

The President proposed that the special thanks of the meeting be voted to Mr. Atkinson, which being put to the meeting, was carried unanimously.

S. Fenn, Esq., duly proposed at the last meeting, was balloted for and elected an ordinary member.

The following gentlemen were named for ballot as ordinary members at the next meeting.

C. H. Tawney, Esq. proposed by Mr. H. F. Blanford, seconded by Mr. Beverley.

J H. Peppe, Esq., proposed by Mr. Grote, seconded by Mr. Blanford.

The Chairman brought forward a report from the Council recommending the election of Mr. E. Blyth to fill the vacancy, on the list of the Society's Honorary Members, caused by the death of Dr H. Falconer.

The report stated Mr. Blyth's claims in the following terms :—

"Mr. E. Blyth is well known to all Indian Naturalists through the Society's own Journal, in which, besides periodical Museum reports which are in themselves full of information interesting and useful to field Naturalists in this country, he has published several Monographs on groups of birds, such as the Cuckoos, Hornbills, &c. Mr. Blyth had, before coming out to India in 1840, published a paper in which he brought together the different species of the Genus Ovis.

"The extensive and valuable collections in the Society's Museum, which are now in course of transfer to Government, may be said almost to have been gathered by him while he was the Society's Curator."

The Chairman announced the satisfaction which he experienced in finding that the Council had made such a selection. The last few elections of Honorary Members had added to the list the names of oriental scholars, and it was right that the new candidate should represent science.

The Hon'ble G. Campbell gave notice that, at the next meeting, he would move for a report from the Council of the replies and information elicited by the Circular seeking to obtain a series of the Crania of the races and tribes of British Asia, and of the character of the Crania so obtained; also to call the attention of the members to the great importance of inquiries regarding the aboriginal races in our immediate vicinity.

Mr. Campbell prefaced his notice with the following remarks :—

"The Science of Comparative Philology, and through it the wider and greater science of Ethnology, may truly be said to have been originated, in an active and practical form, in this very assembly. All attribute to the early labour of Sir W. Jones and his fellow-workers the first place in the movement, which now, in its ultimate development, has made Ethnology the most popular and rising science of the day—so rising that I expect soon to find that, instead of collecting

postage stamps, young ladies of an intellectual turn will collect nice little cabinets of *Crania* for the inspection of their friends. Here then being the egg, where this great bantling was chipped, we must always take a maternal interest in it. It has outgrown our local limits. We are now but one of many bodies co-operating in a great work. I believe that none have throughout co-operated more efficiently than this Society. But one great advantage has passed away. In its early years the Sanscrit was a Literary and Scientific gold field as prolific as California or Australia. Nuggets in abundance rewarded the eager inquirer. By the eagerness and avidity of that inquiry those surface nuggets have been nearly exhausted. Still, earnest labourers do great things for the cause of knowledge, that acknowledgement is thoroughly due to many of our present members But they have, as it were, passed from the Nugget-finding to the Quartz-crushing stage; slowly and laboriously they work out their results. My object now is to suggest that it appears to me that, taking Ethnology in its broad sense, there is at our very doors, another and perhaps an equally rich gold field almost wholly unexplored and in which a rich store of nuggets lies ready to hand.

"Already my friends Babú Rájendralála and others have noticed and discussed the question of the non-Sanscrit elements in the modern Indian languages and races; but that question is still, it is admitted, very obscure. It can only be solved by a knowledge of the sources whence those elements must have come, viz. the aboriginal races. It seems strange that we should at this moment have in constant and immediate contact with us—working around us daily—men of a race and of languages wholly different from our own,—a race certainly among the most interesting—perhaps the very oldest in the world; and that we should yet have scarcely any accurate knowledge of them, physically, linguistically, or in any other way. Any day you may see working on the ditches of the Maidan, perhaps working on the repairs of this very house, men whom the eye at once singles out as of an unknown race and of a form which, I am, I confess, inclined to think, probably more closely than any other, hands down to us something like what may have been the original Adam of the human species.

"We are all pretty well agreed that there is some relationship between ourselves and the races who call a Bull, Bail, a Cow, Gow,

and a Mother, Mama. Some may think that the first word in the mouth of an English or Hindoo child 'Ma-ma' is the mere human bleat like the Ba-a of a lamb. But this is not so; we now know that still more widely diffused young humans do not call their mothers Ma-ma but 'Ai' or 'Aya,' and it is probably with tribes of these latter 'Aya' races that I am now dealing.

"Already the Council of the Society has, to some extent, taken up the subject by the Circular to which I direct my motion, by which attention is called to that most essential object, the collection of specimens of the Physique of Indian races and especially of the Crania by which they are principally classed. And my object is to urge on the members of the Society the importance of co-operating in that and other ways, towards ascertaining accurately the position, in the great human race, of the aborigines who form the population of a great tract of country in what I may call the immediate vicinity of Calcutta. For, from the commencement of the hill country immediately west of the line of the East India Railway far into Central India, these races occupy the country in great numbers and they principally supply our labour market.

"From various sources, the opinion more and more gains strength that before the appearance of the present races, Europe and Asia were, in very remote times, inhabited by another and more primeval race of which the Australian savages have been taken as the nearest modern representatives. All the oldest Crania seem to approach to this type, and in language also traces of the ancient speech seem to linger in the Basque country, in the North of Europe, and elsewhere. Now the Australian type does not stand alone. It is well ascertained to be but one branch of a very low but very widely spread race of men usually called Negrito (to distinguish it from the true Negro), a very black, very ugly, very thick-lipped, very wretched and very savage race, spread over the whole of the Australian-Indian Archipelago and the extreme Southern Islands and Peninsulas of Asia. In all these countries, this Negrito race is always found to occupy, in an aboriginal character, the interior and more inaccessible parts, while the exterior parts have been occupied in times comparatively recent (but still prior to authentic history) by other races. Approaching India from the South and East we have this Negrito race, in a com-

pletely pure and savage state, both in the Malacca Peninsula and in the Andaman Islands. The nearest part of India to the Andamans is the Coromandel Coast, and over the nearest part of that Coast, in the Eastern Ghats, I find an aboriginal tribe called *Chenchwar* described, by an officer acquainted with Malacca, as "just what you might suppose to result from the crossing of Malacca aborigines with the common people of this country." This last remark leads me to an observation which has occurred to me both from all I have seen and all I have read, viz. that the general form and type of the Aboriginal races of the interior of Peninsular India seems, *primâ facie*, to approach very closely to that of the great Negrito race, which I have noticed, and to suggest the idea, (which their geographical position renders extremely likely) that they are in fact but branches of that race who have been, like most of their congeners, surrounded and overwhelmed by another advancing and superior race, and, where not absorbed or intermixed, have been driven into the wildest hills and forests of the interior.

"These remarks have been, to a great degree, suggested to me by the perusal of a most interesting paper by Col. Dalton, Commissioner of Chota-Nagpore, and I deem it an especially fortunate circumstance towards the inquiry which I advocate, that the country which is the main seat of the aboriginal tribes is administered by a man of the greatest scientific ardour and interest in the matter. Col. Dalton's paper tells us, I may say just enough to make us wish for more, and it is evident from his observations that there is much yet unknown to him in regard to which others may largely assist him. Especially we may look for much to those Missionaries who have, with such admirable devotion and success, tamed and converted large numbers of these races. I will only read a short passage in which Col. Dalton describes the appearance of one of these tribes.

"'The Jushpore Oraons are the ugliest of the race, and appear to me utterly destitute of all ambition to rise into respectability of appearance. With foreheads 'villainous low,' flat noses, and projecting maxillaries, they approach the Negro in physiognomy'—and a little lower down he describes them as 'dark and coarse-featured, broad noses, wide mouths and thick lips.'

"The few skulls which have been received must be examined scientifically, and they are yet too few for any safe induction, but to my unscientific eye, the skull of an Uraon Cole placed on the same shelf as two Andaman skulls seemed so similar in the general bullet-headed character that I have put them on the table.

"Principally on slight philological grounds, the aborigines of India have been usually classed as Turanian or Mongolian, but the highest authorities make clear, what mere appearance indicates at a glance, that (excepting altogether the very different tribes of the hills East of Bengal) the Peninsular aborigines have no immediate connection whatever with Thibetans or Mongols. They are only classed as Turanian in that very wide and uncertain sense which includes Australians, Polynesians, and even the American Indians. And Dr. Caldwell in his very exhaustive work on the languages of Southern India, while he shows certain affinities to the Finnish and other languages, also shows that the Dravidian languages bear in their structure a marked affinity to those of Australia. Certainly so far as the external appearance of the living races goes, there can be no doubt of their *Negrito* resemblance. Col. Dalton, in some farther notes, in answer to queries of mine which he has very kindly furnished, still farther confirms his remarks just quoted by me. He seems to think the Uraons peculiarly Negro-like, and says that they have sometimes woolly hair. Every description of every practical observer, and my own observations during several recent travels, all tend to show the same general type in all the aboriginal tribes of the Peninsula. Many of the descriptions seem absolutely identical with those given of the Negritoes of other lands. But of course these mere popular remarks must be confirmed by more accurate and more scientific observation. The *thick lip* is the most marked characteristic of the aboriginal races to the casual observer.

"I have taken a good deal of trouble to look through all the Journals of this Society, and of the London Society, and other sources of information. But I cannot find that there exists any full information whatever on any subject connected with these races. Dr. Caldwell and others have probably told us nearly all that can be known regarding the Southern tribes, but there the aborigines seem to have been

absorbed in the general population; the savage non-Hindoo tribes are few, scattered, and much intermixed in blood. It is in the North of the Peninsula that the aborigines are found in large masses and of purer type, and it is regarding them that inquiry is wanting. Dr. Caldwell and his fellow labourers, who have successfully affiliated together all the Southern tongues, civilised and savage, in one Dravidian class, seem also to have shown as satisfactorily as it is possible to show from scanty Catalogues, that not only the Gonds, but the Uraon Coles (the low-type Negritoes of Col. Dalton) and the Mountaineers of the Rajmehal Hills are also Dravidian. This is just what we should have expected, but it is a surprise to find that among tribes in appearance and character so nearly of one type, and dwelling to so near one another, that we know them all under the general name of '*Coles*,' there is so extreme a difference of language that the tongue of the Uraon Coles of Chota-Nagpore and that of the Moondah Coles of the same district have not, so far as our slight knowledge extends, exhibited even the same affinities as are found between widely different branches of the Turanian class. In truth, however, we have but very small vocabularies and no grammars of these languages, and farther inquiry will probably either affiliate them, or lead to the discovery of a curious meeting of very different races in the plateau of Chota-Nagpore. In short, endless and most interesting problems may be opened out in tracing the various races of Moondahs and Kharwars and Korewahs and Bhoois and Kaurs of which Col. Dalton's paper gives us glimpses. The Moondahs, Sontals, and several other tribes are clearly related by the bond of a common language not yet ascertained to be Dravidian, and the possible foundation of some of the Northern languages, though the affinity is not yet found.

"From a vocabulary taken by Dr. Voysey at Ellichpore (and published in the Society's Journal) of a tribe called "*Coours*" in the Gawalghur hills of the Sautpoora range, I find it to be evident that these "*Coours*" are very nearly allied to the Moondahs and Sontals of this side of India. This brings us very near to the Bheels and Coles of the hills to the North of the Bombay Presidency and Rajpootana, regarding whom also we have scarcely any information. They are probably allied to our aborigines, the word Cole or Coolee being a wide one, applied by the Hindoos to the Helot races whom they subdued or drove to the hills.

"Being then convinced that these races form a subject of inquiry than which none can be more worthy of the Members of this Society, I venture to suggest four Divisions of Inquiry.

1. The languages; we should like to have, not only the Vocabularies but the Grammar and structure.

2. The appearance; which can be now so well preserved and conveyed by Photographs.

3. The mental qualities, manners, and institutions; especially it would be interesting to know whether the Oraons, Moondahs, Sontals, &c., when settled, have municipal institutions like the Hindoos or live under a patriarchal constitution.

4. The Osteology; the collection of Skeletons and Crania.

"It should only be added that the aboriginal tribes are now in many, or most places, so intermixed with Hindoos (whose more intense Arian individuality more influences the cross breeds) that specimens, to be of use, should be as pure as possible, in fact to get the true type it would be well to seek for, as it were, *exaggerated* specimens—the most aboriginal among the aborigines—the most ugly among the ugly, such as Col. Dalton found among the more remote hills, and such as I can find any day by a judicious selection of the most ill-favoured Coolees on the Maidan. I beg to move the request to the Council of which I have given notice."

Dr. Colles said:

"The ethnology of the aboriginal races of India, the study of which has been advocated by Mr. Campbell, is one of the greatest importance, and it is a stigma on the Society that it has been so long neglected. Of the four subjects of enquiry proposed by Mr. Campbell, three, viz. the language, appearance, and manners of the races in question, can only be studied on the spot. The fourth subject, their osteology can only be studied where, as in the Museum of this Society, a collection of Crania exists. It must be remembered, however, that Crania, in their entire state, are only like the backs of unopened books; to obtain inferences from them sections must be made, so as to allow of internal measurements being taken. The first step, in such a case, is to obtain a standard, and for this purpose I would recommend that sections of the most typical skulls, both of the aboriginal and invading (Arian) races in the Museums of the Asiatic Society and Medical

College should be made, and the necessary measurements taken, so as to allow of an approximate standard set of dimensions, for the principal races, to be laid down. With this standard all subsequently obtained Crania should be compared, and the standard itself modified according to the results so obtained."

The Chairman observed that he felt much obliged to Mr. Campbell for bringing the subject forward. It was a subject to which he had called the Society's attention some years ago at one of their annual meetings and he believed that the Circular to which Mr. Campbell had just alluded, was the consequence of his remarks on that occasion. Without venturing to anticipate the report, which the Council would have prepared for the next meeting, he expressed his fears that it would be an unsatisfactory one, as that but few Crania had been gained for the Society's collection. The difficulty of obtaining Crania of unmistakeable identity was very great, and when they were of doubtful identity, they were hardly of any value. As regards the skull of the Andamaner on the table which Mr. Campbell had particularly referred to, there was no guarantee that it was what it purported to be, having only been found in the hut of an Andamaner. He hoped that Col. Dalton's promised paper on the Koles would be received before the next meeting, and he expressed his belief that Mr. Campbell might rely on the Society's cordial cooperation in prosecuting these ethnological enquiries.

The Council reported, that the draft Act, for the establishment of the New General Museum, had been prepared and submitted to Government for approval by the Museum Transfer Committee. A copy of the draft had been sent to the Council. The Secretary then read the purport of the several clauses of the Act, and the Chairman explained that a special meeting would hereafter be called for its consideration, and for the Society's final ratification of the conditions of transfer.

The following is an extract from a letter received from Mr. C. Horne.

"I found amongst the effects of a deceased pilgrim, a packet of little stamped silver bits (I will try, and send you 2 or 3) of which the last very interesting paper put me in mind. They are punched, and I, in my ignorance, took them for Japanese coins. The silver is much alloyed.

"Here are correct drawings of the only 7 I have preserved. They are of very nearly equal weight (the differences between them being

extremely slight), and it is odd that none could tell me what they were. On second thoughts, you must have many, and it is not worth while sending. The first which I made in May, 1862, contained perhaps 200 or more, and I fear the balance have been melted up at Benares.

"I have deferred my paper on mason marks until I should hear from other parts of India. I cannot, however, trace any, and their use, whatever it was, appears to have been confined to Magadha and thereabouts, and not to have lasted for many centuries. Bábu Rájendralála Mitra has made out many for me from Bakarya Kund, and these are *all* of the Gupta period. Hence the date assigned in our paper is much thereby confirmed, as most of the stones so inscribed, appear to have been never moved since first laid, the inscriptions having become legible by the foundations of massive structures having become bare. I should like a statement of Mr. Peppe's, in a letter of his to Mr. Grote, to be corrected. It occurs on page 82 of the Proceedings, where I am made to say, that the temple of Kooch is Buddhist and Mr. Peppe described the temple to me. I suggested that it might possibly have been erected at the same time as that of Boodh Gya, the date of which in my "Notes" I hold yet to be an open question. I never saw the temple at Kooch, nor was I aware it had an *arched* chamber in it.

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"I should like much to ascertain what is the opinion of archæologists as to the bacchanalian figures alluded to and figured in our paper. They have no affinity to your museum "Silenus"—and they are not at all Indian. The head dresses are most quaint."

The following two letters from Mr. Peppe, about the Boodh Gaya temple, were read, and the photographs referred to, exhibited.

Gya, 27th July, 1865.

"I have just returned from Boodh Gya and proceed to give you the result of my examination of the arches. As far as I am able to give an opinion, the internal arches *i. e.* the roof of the lower chamber, and the three arches in the middle chamber, are as old as the building itself, the larger arches in the porch, and those giving cover to the staircases, I believe were subsequently built, at all events I saw sufficient proof to convince me that the main building was built and plastered, before the porch, as I found in several places that that portion of the

wall of the main building which is covered by the side walls of the porch, was covered with a coating of plaster and that the mouldings were perfect. Now this could hardly have been the case, had the porch and temple been built at the same time, and further the wall so covered by the porch wall had only *one* coating of plaster, whereas the whole building, porch and all, has had at different times *two* coatings of plaster, in the first instance it was highly ornamented with various devices, the second was plain, simply following the mouldings of the bricks.

"Mr Horne says the inserted work is clear everywhere; I cannot help thinking that he must have been misled by the junction of the porch and main building, and I am the more inclined to believe this from what I remember of his remarks when we both visited the temple, for I could find no sign of any disturbance of the original masonry within or without the walls of the porch, which would have been quite observable had the walls containing the arches either in the middle or lower chamber been inserted after the main building was built; you will be able to judge in some degree yourself, if you will carefully examine the Photograph No. 2, where the wall is very clearly shown, and also No. 1, but, as it is on a smaller scale, it is not so distinct.

"He further says that, 'the floor of the upper chamber comes through the wall of the building,' but I cannot see what this has to do with the inserted work; it only shows that the upper chamber terminated at this point, and that the triangular opening went no further. In the Koch temple, the opening has perpendicular sides, and is much larger in proportion than the Boodh Gya one, and if the sides were prolonged, as at Koch, they would include the middle chamber, but I could find no sign that such had been the original structure although I examined the wall from every available place.

"The Koch temple has only two chambers and there is only one arch; viz. the roof of the lower chamber, I send a Photograph of the front of that temple, No. 8, which will give you a very good idea of its appearance and style.

"I have the pleasure to send you herewith a set of nine Photographs, viz.:

1. View of the great temple at Boodh Gya with Amara Singha's Gateway in the foreground.

2. Nearer view, showing the courtyard and Buddha Pad.
3. View from the South, showing the Bodhi tree.
4. View from the North.
5. General view of the temple and courtyard from the North.
6. Temple of Tara Devi from the East.
7. Two Boodhs, from a cell in the courtyard.
8. Temple at Koch from the East.
9. Ditto ditto, from the South-West.

"The other Photographs are nearly ready and will be sent in a day or two. The weather being now so cloudy has prevented my getting them ready sooner."

Gya, 29*th July*, 1865.

"I have just paid another visit to Boodh Gya in order to examine more carefully, than I was able to do on my last visit, the plaster covering the different parts of the temple, with a view to determine the age of the arches in the middle and lower chambers; the following is the result of the examination.

"1st. The four sides of the main building, above the terrace on which the Bodhi tree stands, has had two distinct coatings of plaster, the first or original one (in all probability applied immediately on its erection) is of such a distinct character as to be readily recognised; it is composed of fine lime with very little admixture of other materials, thin, and almost of the consistence of limestone, sparely ornamented, and that where the outward coating is now ornamented the original coating was plain and *vice versâ;* this coating is somewhat weather worn in some places, showing that some time must have elapsed before it was covered with the 2nd coating.

"2nd. The lower platform, as far as it has been exposed by the excavations conducted by Capt. Mead, has only *one* coating, but differs from the original coating of the superstructure in being thicker and applied in two layers, it is highly ornamented with a frieze of Lion's heads and hanging garlands, &c. but it is equally hard, it is therefore most likely the original coating of this part of the temple.

"3rd. Having therefore got some guide as to the covering of the temple as originally constructed, it may serve as a test of the relative age of the different parts of the building, more especially with reference to the age of the middle and lower chamber containing the arches.

"Commencing with the lower chamber, the walls were found to have two coatings, the first or original one is composed of two layers, and is, when stripped of the superior one, blackened with age and smoke, and had been painted.

"Ascending to the middle chamber, the wall is found to have *two* coatings, but each coating is in one layer, the lower one is thin and hard and had been painted; it therefore corresponds with the original coating on the out-side, and the wall of the lower chamber corresponds with the outside wall in the same way.

"The upper chamber had also two coatings but only one is now remaining, but the floor shows the double coating in good preservation.

"The porch, in front of the middle and lower chamber, has two coatings, but in this case the lower one is not of the same character as the original coating of the other parts of the building, it is softer, and it is highly ornamented in quite a different style to any other part, but the original coating is found on the wall of the temple covered by the side walls of the porch, without any second coating.

"The deductions which may be drawn from the foregoing facts are:—

1st. That lower chamber, with its arched roof, is of the same age as the lower part of the temple.

2nd. That the middle chamber, with its arches, is of the same age as the main building.

3rd. That the porch was built at a later period.

4th. That some considerable time after the temple and porch had been built, the whole was replastered, with the exception of the outer wall of the terrace; why this was not plastered, it is difficult to say, most probably on account of the ornamentation, or was it, even then, covered by the accumulation of rubbish?"

Bábu Rájendralála Mitra said, that when at the [illegible]ne meeting of the Society he expressed his opinion regarding the antiquity of the Buddha Gayá arches, he little expected that it would be so soon verified by the independent research of so able and experienced an officer as Mr. Peppe. That gentleman had before him all that had been said by Mr. Horne and the Bábu on the subject, and was thereby fully prepared to direct his attention to those points which required the most careful scrutiny. His opinion, therefore, regarding the contemporaneity of the arches with the shell of the temple, may be taken to have settled

the question at issue. An opinion had been for a long time prevalent that the ancient Hindus knew not the art of erecting radiating arches. This was owing to the fact of most of the old Hindu temples having been roofed in by what is commonly called the projecting or horizontal arch, which in truth was no arch at all. But now as Mr. Horne has admitted that the shell of the Buddha Gayá temple is of the time of As'oka, and as the arches which support the roof of its ground floor and span its doorways, are acknowledged to be contemporaneous with the rest of the building, it must follow that the arches were built about 250 years before Christ; and since in those days the Hindus could not have derived any benefit from the experience of their neighbours, it must also follow that the art of building radiating arches in India was the result of an independent effort of the Hindu mind. It was true that Mr. Peppe thinks the porch of the temple to be a comparatively modern structure, but that was of no importance to the question, as the Bábu in his paper on the ruins of Buddha Gayá had not at all alluded to the porch, and the antiquity of any one single arch of the temple would prove the position assumed by him.

The receipt of the following communications was announced.

1. From H. Clarke, Esq. a letter on the monument of Assyro-Pseudo-Sesostris.

Mr. Blanford read Mr. Clarke's letter.

2. From Major-Genl. A. Cunningham, "Note on the coins of the nine Nagas and of two other dynasties of Narwar and Gwalior."

3. From W. Theobald, Esq. Jr., "Note on a collection of Land and Freshwater shells from the Shan States, collected by F. Fedden, Esq."

4. From Lieut.-Col. J. T. Walker, on the part of Capt. J. P. Basevi, R. E., a paper "on the Pendulum operations about to be undertaken by the Great Trigonometrical Survey of India, with a sketch of the theory of their application to the determination of the earth's figure, and an account of some of the principal observations hitherto made."

The lateness of the hour prevented any of these papers from being read, but the Chairman expressed a hope that the Meeting would not separate without a vote of special thanks to Capt. Basevi and to Col. Walker for their communication, which he was sure would be read

with great interest in the Journal.—The paper of Capt. Basevi was one which explained the history of Pendulum observations from the date on which they had been commenced on the Great European Surveys, and the circumstances under which Col. Sabine's instruments had been obtained for employment on the Great Trigonometrical Survey of India.

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR SEPTEMBER, 1865.

The monthly general meeting of the Asiatic Society of Bengal was held on the 6th Instant.

A. Grote, Esq., President, in the chair.

The minutes of the last meeting were read and confirmed.

Presentations were announced—

1. From Babu Rajendra Mullick, specimens of an Antelope, a Lemur, a Binturong, an Emu, a Chuckore and an Australian Magpie.

2. From C. Horne, Esq., specimens of bricks from the ruins of Sarnath and Bakariya Kund.

3. From Capt. H. H. Godwin-Austen, a Thibetan MS. containing stage instructions for the Mystery plays performed in Ladak.

4. From Babu Somanath Mookerjee, a copy of his edition of the Arya S'aptas'ati.

5 From the Government of India, Foreign Department, a copy of Vol. VII. of a "Collection of Treaties, Engagements and Sunnuds relating to India and neighbouring countries."

6. From J. H. Ravenshaw, Esq., through the President, a set of photographic views of the ruins of Goui.

Models prepared under the direction of Mr. H. H. Locke, of the Aerolite which fell at Gopalpore in the Jessore district on the 23rd May, 1864, and a *post mortem* cast of an Orang-outang, were exhibited.

A special vote of thanks was passed to Mr. Locke.

A letter from Maharajah Man Singh intimating his desire to withdraw from the Society, was recorded.

E. Blyth, Esq., duly proposed at the last meeting, was balloted for and elected an honorary member.

The following gentlemen duly proposed at the last meeting were balloted for and elected ordinary members :—

C. H. Tawney, Esq. and J. H. Peppe, Esq.

The following gentlemen were named for ballot as ordinary members at the next meeting :—

Lieut. C. Macgregor, proposed by Lt.-Col. Gastrell, seconded by Dr. Anderson.

P. Carnegy, Esq., proposed by Bábu Rájendralála Mitra, seconded by Mr. H. F. Blanford.

J. Middleton Scott, Esq., proposed by Mr. A. Grote, seconded by Mr. H. F. Blanford.

The chairman, on the part of the Hon'ble G. Campbell, brought forward his motion for a report on the Society's recent collection of human crania of which due notice had been given at the last meeting.

The motion having been carried, the Council submitted the following report.

REPORT OF THE COUNCIL.

The Council beg to submit the following memoranda drawn up by the Assistant Secretary and the Curator.

On a proposal made by the President (Mr. Grote) at a Meeting of the Natural History Committee, held on the 11th February, 1862, for devoting special attention to the subject of Ethnology, with the view of bringing together collections of Crania illustrative of the various races inhabiting India and the adjacent countries, a circular letter was printed, soliciting the favour of co-operation from members and others towards the object in view.

Not a single copy of this circular letter was issued *direct* from the office, but 57 copies were sent to Dr. Macrae on the 25th March, 1862, and a dozen to the President on the 1st April.

In April 1862, a cranium of a Lurka Cole was received from Dr. Hayes of Singbhoom; no letter accompanied the donation; it was forwarded to the Museum by the President.

Dr. T. Dillon, in a letter from Munnipore, dated the 20th January, 1863, promised to send a collection of Crania of the hill tribes of Assam and the Eastern Frontier, but not a single cranium has been received from him.

Col. Dalton, on the 10th April, 1863, announced from Ranchi the despatch of a collection of Crania, and enclosed statements of them.

He expressed a hope to send in due course more carefully prepared skulls for the museum.

The collection, consisting of 11 Crania, reached the museum in due course. In a letter dated the 13th September, 1863, Col. Dalton announced the despatch of a box containing 3 skulls and enclosed descriptive papers of them. Col. Dalton, however, in the letter, questions the correctness of the papers with regard to the characteristics of the tribes to which the skulls are represented to belong.

Besides the above, the President forwarded in November 1862, on the part of Mr. Browne, the cranium of a Kookie; and Col. Tytler presented in July 1863, two skulls, *supposed* to be skulls of Andamanese. Col. Tytler, however, in his letter dated 2nd July, 1863, states that they are *real* Andamanese skulls.

LALGOPAL DUTT,
Assistant Secretary.

The following is a list of human skeletons and crania contained in the museum.

Two human skeletons and ten skulls are mentioned in the Mammalia Catalogue of the Museum. I have identified the ten skulls with the letters in the Catalogue, but have found only one of the skeletons, viz. that of an European. The missing one is described as that of a Nicobarian female. The skull first mentioned in the Catalogue is that of a Chinese, but no history of it is known, except that it was presented to the Society in 1836, by Mr. W. Carr, as a Chinese cranium.

The second is said to be a Chinese cranium although it is marked Burmese. Donor's name unknown.

The third is entered as a Burmese skull, but the donor's name is unknown.

The fourth is that of a Malay pirate; no further history.

The fifth is the skull of a New Zealander.

The sixth, seventh and eighth are Limbo, Bhotea and Lepcha crania and are said by the donor, Dr. J. R. Wittecombe, to be authentic, as he knew the individuals while living, and considered them good average specimens of the tribe.

The ninth skull is entered as that of a Hindu child; no history.

No. 10 as an Egyptian mummy head.

These skulls are lettered from A to K, exclusive of B.

Fourteen crania were received from Col. Dalton, and each skull is, in the MS. Catalogue, accompanied by answers to all the questions which were issued along with the circular. In one instance the habitat is unknown, and in 6 cases, the birth place.

These skulls are numbered according to the MS. Catalogue 1 to 14, and they have the Nos. on the frontal bone. Nos. 15 and 16, in the MS. Catalogue, are the Andamanese skulls presented by Col. Tytler. No. 17, in the same Catalogue, is the skull of a Nicobarian aged female, but I strongly suspect that it is the cranium of the skeleton which I have not been able to find in the museum.

No. 18, is a Kuki skull presented by Mr. Browne.

No. 19, Cranium of a Lurkha Cole, resident of Gatruah Peer Colehan Singbhoom, presented by Dr. W. H. Hayes.

Nos. 20 and 21, crania of Andamanese. One, of a man who was brought to Calcutta by Dr. Mouat, and died here. The other the cranium of an imperfect skeleton presented by Col. Tytler.

The skeleton of No. 20, is also imperfect. Both of these skeletons I discovered in the taxidermists' godown.

J. ANDERSON,
Curator.

The Report having been read—

The Hon'ble Mr. Campbell said that it was greatly to be desired that a Scientific Report be drawn up of the collection of Crania now existing in the Museum.

The President stated that the collection not consisting of authentic specimens, the report would aid but little in the elucidation of science.

Dr. Boyes Smith then moved—

"That horizontal and vertical bisections be made of all the human Crania at present in the Museum. That this be done without delay, as a sound scientific basis to future craniological observations, on the plan approved by the Council."

Mr. Theobald seconded the motion.

On this the Chairman proposed—

That this motion be referred to the Council with a recommendation that the bisections in question be made, and the results reported on in due course.

Carried.

Dr. Colles observed that as the collection was now small, this was the most proper time that measurements should be taken and recorded, and that it would be easy, when Crania are added to the collection in future, to measure them and compare them with the typical skulls.

Mr. Blanford remarked that though fully appreciating the importance of the proposals made by the Hon'ble Mr Campbell, Drs. Smith and Colles, he was afraid that there was no one ready to devote himself to these useful investigations and to work out their results. He, in common with others, would hail as most welcome, any contributions to the ethnology of the country, founded on a study of the crania, but all scientific investigations demanded time and thought, which but few, who possessed the requisite preliminary knowledge could give in this country. The medical officers alone possessed the latter, but who among them was prepared to undertake the work? *Dilettanti* such as himself would undoubtedly receive such a report as that proposed by Mr. Campbell with much interest, but novel investigations required great thought and study, and there is no class of leisured men in India, who could, as in England, be expected to respond to the call of a scientific body, to devote time and attention to any line of enquiry that might be recommended to them. He thought that when volunteers presented themselves to carry out the measure proposed by Mr. Campbell, it would behove the Society to afford them every facility. But to call for information which no one was prepared to give, appeared to him premature.

Mr. Campbell expressed a hope that the able and learned professors of the Medical College and other Government Institutions who belong to this Society would assist the Council and the members of the Natural History Committee in this important and useful task.

Bábu Rájendralála Mitra then gave notice of his intention to move at the next meeting that the Society should recommend to Government that registers of Magnetic and Ozone observations be kept at the Observatory attached to the Surveyor General's Office at Calcutta.

The Council reported that they had granted six months' leave of absence to Bábu Lálgopal Dutt, Librarian and Assistant Secretary, and had appointed Bábu Protap Chunder Ghose to officiate for him during the period.

The following letter from Mr. Horne was read—

"I am delighted that my notes on Boodh Gya have led to such a discussion about the antiquity of the arches. As Messrs. Grote and Blanford have admitted the outer arches to be modern, I may consider that I have taken the outworks. There only remain the inner arches, the citadel so to speak. These to my thinking have been constructed as shewn opposite.* The great hollow shell of the building, I hold, was originally plastered as shewn by the thin double lines. And light was admitted over the high doorway so as to fall on the image of Buddha, which faced west.

"The plaster of the outer arches is very coarse, (I brought away samples of it,) and that of the inner work finer: but I hold, in this case, the plaster to be a very unsafe and totally untrustworthy test of age. For age after age, it has been made in the same manner and of the same material. By using different coloured chalk, I have, I think clearly distinguished old and new, and the grotesque 'Rishi' or demon face (burnt in pottery apparently) built into the inner face of the arches of the roof seems to me to indicate a later date than Asoka—for it is fixed in the original building without doubt. The flower ornament outside *may be*, but does not look *old*.

"I am delighted that so many are about to examine carefully this most interesting ruin, and would I could be of the party. If I have time I may send down a set of rough sketches of the figures in the disinterred railings. They are curious, and I await information as to whether any artist accompanies Mr. Grote, as in that case I will not do so.

"All my remarks are open to correction, for I only spent two days at Boodh Gya; although I was not idle, but drawing, measuring and sketching all day.

"My theory as set forth by the section plan, herewith sent, may easily be tested on the spot, I shall be delighted to hear of the results of the researches of any members of the Society stimulated as they have been by those of Bábu Rájendra Lál Mitra and myself."

"P. S.—To build the tower, beams were let into holes in either side, but not piercing the work, and if ever there formerly were floors,

* In a drawing accompanying the letter.

they were thus supported by beams. The roofing in with timber (sal probably) of the top is worthy of further enquiry. All points to extensive restoration."

The following letter from Major-General Cunningham, communicated by the Government of India, was read.

"*Nynee Tal*, 12*th July*, 1865.

"I have the honor to acknowledge the receipt of your letter No. 536 C, dated 27th May, 1865, forwarding copy of a letter No. 156, dated 21st March, from the Secretary of the Asiatic Society, suggesting that advantage should be taken of the newly discovered magnesium light to make photographs of the interiors of the various cave-temples of India which have hitherto been inaccessible to the art of photography.

"2. The principal cave-temples of India may be divided into the three following distinct groups according with their geographical position :—

I. Bombay series, comprising the caves of	1. Elephanta.
	2. Kanari.
	3. Ellora.
	4. Karli.
	5. Ajanta.
	6. Junir.
II. Central India series, comprising the caves of	7. Bâg.
	8. Dhamnâr.
	9. Kholvi.
III. Bengal series, comprising the caves of	10. Barâbar, near Gaya.
	11. Khandagiri in Cuttack.
	12. Mahavellipoor.

Of these twelve series of caves, I have myself visited five, and I am therefore able to speak of them with more confidence than of the others which I have not seen. But since the receipt of your letter, I have read all the accessible notices of the other cave temples, that I might be able to offer to Government, the best opinion in my power on the interesting subject which has been submitted for my consideration.

and extent of its architectural remains, and therefore of the twofold pleasure in store for us when we pay it a visit. They are described, though imperfectly, by Mr. Fergusson in his *Hand-book of Architecture*, and very fully by General Cunningham in the Asiatic Society's Journal, September, 1848. It would be waste of time to repeat what he has so well told: but I desire to write a few lines introductory to an account of some temples omitted in that paper, to be furnished I hope by my friend, Mr. Cowie, when he has completed his service as chaplain in Kashmir for the present year. In these short notes I shall assume an acquaintance either with Mr. Fergusson's or General Cunningham's sketch of Kashmirian architecture, and especially with its resemblance to Greek art.

"1. On the Jhelum, half way between Srinagar and Islamabad is the site of Aventipura, where are the shattered remains of two large temples, identified by General Cunningham with the *Aventiswami* and *Aventeshwara* of Kashmirian historians, both dedicated to Siva, for Swami and Ishwar when they stand alone, are, as is well known, especially applied to the divinity. What I have now to tell is about the smaller of the two, Aventiswami, which consisted as usual of a ναός or sanctuary, the temple proper, standing in the middle of a large quadrangle, with a lofty gateway in the middle of one side.* Of this gateway, a considerable portion remains, but the sanctuary is reduced to a mass of huge stones and fragments of columns and carving heaped together in a confused mound. As we stood examining it, a scene occurred resembling that in the *Antiquary*, when Edie Ochiltree distrusts Mr. Oldbuck's speculations as to the date of a supposed Roman earthwork, by the inopportune remark, 'I mind the bigging of it.' I was reading aloud for the benefit of our party, General Cunningham's account of the temple, and his positive assertions that it could not have been destroyed by an earthquake, but must have been blown up by the gunpowder of some Mahometan iconoclast, Sikander or Aurungzib, when an old village patriarch, who found out what I was saying from one of the Maharajah's officials who had been sent to escort us, suddenly exclaimed, 'But it was not blown up: I

* Henceforth I shall always use "Sanctuary" for this inner building, the supposed abode of the god, and "Temple" for the whole structure, peristyle, sanctuary, and gateway. But in some cases the Temple consists of nothing but a sanctuary.

saw it thrown down by the great earthquake 50 years ago.' The assertion certainly seemed fatal to General Cunningham's speculations, though on the other hand, as the condition of the Aventeshwara temple is exactly like that of Aventiswami, it is singular that in both cases the earthquake should have spared the innocuous gateway, and utterly overthrown the sanctuary or actual abode of the idol, a distinction which savours strongly of Aurungzib. However, whatever be the case with the sanctuary, the powers of nature have plainly been at work in the rest of the temple, for either by earthquakes or by the lapse of time, the ground has completely silted up, so that the whole peristyle of the quadrangle, has been buried. When General Cunningham was here, he caused a small portion of the ground to be excavated, and a beautiful fragment was thereby revealed, consisting of fluted columns standing a little in front of a series of trefoiled arches, each enclosed within a triangular pediment, flanked by pillars, and ornamented with human-headed birds, such as we afterwards saw at Martund, the grandest of Kashmirian ruins. As we paced the grass near this fragment, it seemed plain that we must be walking over pillars of equal beauty, and that the whole peristyle probably remained underground. So we asked the Maharajah's jemadar whether we also might employ diggers, whereupon, with the promptitude of a paternal government, he gave the *hukm*, and forthwith twenty coolies with pickaxes and spades rushed upon the scene, and began to dig in a place which he selected as promising. We then continued our voyage up the river, saying that on our return we hoped to see the result of their labour, and to pay them according to its progress. Five days after, we again moored our boats at Aventipura. To our great delight we found about 20 feet of the peristyle uncovered, on the side opposite to Cunningham's excavation, displaying a continuation of trefoiled arches between ornamented pillars, with detached columns in front. The newly revealed pillars are more varied and rich in their decoration than those previously discovered. Part of the architrave had fallen down just in front of the arcade, but this displacement seems merely local, and there is little doubt that by active digging the whole peristyle will be displayed almost in its original beauty. I could not stay to see this done, but Mr. Cowie took measures for continuing the work, and I have since heard from him that it has been advancing

with very satisfactory results. The visitors were subscribing towards the cost of it, and though I hear that there has lately been a difficulty in procuring labour, yet it was hoped that this was only temporary. If the whole peristyle is uncovered, not only will there be a most interesting addition to the antiquities of Kashmir, but as Aventipura is within a morning ride of the capital, one of the most beautiful and instructive among the architectural sights of the valley will also be one of the most accessible. Mr. Cowie will doubtless send to the Society an accurate description of the whole temple, with careful measurements, and (I hope) photographs.

"2. At the village of Bhowar near Islamabad are Buddhist caves, of which one is highly interesting, but as Bhowar is also close to the magnificent temple of Martund, the cave is rather obscured by so august a neighbour, and travellers are apt to miss it. In this neglect they are encouraged by a book often taken as a guide, called the *Diary of a Pedestrian in Cashmere and Thibet*, which is to be commended rather for its pictures than for its letter press. On reaching Bhowar the pedestrian remarks: 'Beyond a tank teeming with sacred fishes, there appears nothing whatever to be seen here, so, taking warning from this, we thought it not worth while proceeding to Bamazoo, where we were told there were caves, but fed the fish, and retraced our steps,' &c. And even Genl. Cunningham may rather deter the less adventurous traveller from attempting the caves, by his frightful description of the bats and other abominations which he encountered in the most important one, and of the difficulty of the ascent to it. But by pursuing his course from the village to the caves, the traveller will (1) fill up the time during which he must wait for breakfast; (2) enjoy a delightful walk by the gushing streams of the Lidar, an affluent of the Jhelum; (3) see while walking a good specimen of a Vihara, for the hills at the head of the valley have been scarped by the river into cliffs which are hewn into numerous square chambers, once the abode of Buddhist monks; and (4) visit without any of the difficulties formerly experienced, the most perfect sanctuary in Kashmir. There are two principal caves. The first is that of Bhima Devi, a straight narrow fissure in the mountain, widening at the end into two small chambers, which are in the condition attributed by Cunningham to the other cave, for it is filled with countless bats, who, disturbed by the

torches, fly all about the visitor, flap against his face, and nearly poison him with their stench, while he soon discovers that the soil over which he walks is composed of their guano. As there is absolutely nothing of art or antiquities in this filthy place, and as the annoyance is undeniable, the traveller had better decline to enter it, and proceed at once to the other cave, that of Bhaumajo (the Pedestrian's Bamazoo) which is now wholly free from these horrors, and approached by no more difficult access than a steepish path and a short ladder. In the middle of this cave is a sanctuary, still as perfect as when it was first built, the natural walls of the cave supplying the place of the peristyle of Aventiswami, so that he who wishes to restore in imagination the sanctuary of that temple, may do so by examining this of Bhaumajo. He may supply from it the pilasters, square topped doorways, pediments, trefoiled arches, and pyramidal roof broken into two stages, which once adorned Aventiswami, and he may even picture to himself its interior decorations, from the immense lotus which now expands over the whole ceiling of Bhaumajo. Genl. Cunningham's paper, except as to the bats, dirt, and inaccessible position of the cave, will be, as usual, of the greatest service to the visitor.

"3. At the village of Bhariyar, near Naoshera, the last stage on the road from Murree to Baramula, is a very important temple which was choked up with snow when General Cunningham visited the valley, and he only surveyed it through a telescope from the opposite side of the Jhelum, as he was returning to our territory by way of Mozufferabad. He also says that the quadrangle was filled with trees which impeded his view of the architecture: this certainly is not the case now. Taken altogether, it is the most complete specimen of a temple which we saw, the general plan being exactly that of the temples at Aventipura and Martund. The upper part of the gateway is gone, and over it is a kind of wooden verandah. So too the top of the stone pyramid which once surmounted the sanctuary has been replaced by a wooden substitute. The peristyle is entire; and all the chief characteristics of the Kashmirian style are here exhibited—the capitals of Doric solidity, the wide intercolumniations, and the trefoiled arches. The temple is less elaborately decorated than those of Martund and Aventipura, but whether this is a proof of antiquity or degeneracy, must be determined by better archaeologists than myself. A careful descrip-

tion and measurements of the temple will be supplied by Mr. Cowie, and Messrs. Shepherd and Bourne have published some beautiful photographs of it. The 'Pedestrian' does not notice it at all, as his journal at Naoshera is occupied by an account of his tumbling into the water, and of the loss of a sheep, 'which most seriously affected the success of the day's dinner arrangements.'

"4. I will put together in conclusion two or three matters of less consequence. At the head of the exquisite little lake of Marusbal, which should be visited for its lovely scenery, is a small sanctuary now so engulphed by the advancing water that only its pyramidal top appears above the surface. By paddling up to it in a little boat we could see the upper part of the pediment, and found that within it, as at Pandrethan, a cross-legged figure is sculptured. And while the traveller is exploring the city of Srinagar, which, in spite of its filth, contains many objects of interest, he should visit a mosque called by the boatmen the Pádsháhi Musjid, where Zein-ul-ab-ud-din, the Sultan who introduced shawl-making into Kashmir, erected his mother's tomb on the foundations of an old temple, which is noticeable for a fine gateway, ornamented with representations of the temple itself in bas-relief; and for the remains of a quadrangle having 84 recesses, which once contained as many emblems of Siva, 84 being a favourite number with the old Kashmirian architects, and connected, as Genl. Cunningham explains, with the worship of the Sun. These small models of temples, often placed on pillars, are noticed both by Fergusson and Cunningham, and are very curious and instructive. Perhaps the best is to be seen in the middle of an open space near the Jumma Musjid of Srinagar, which in itself deserves a visit on account of the forest of deodar columns by which its roof is supported.

"I do not know whether these stray remarks, soon to be superseded I hope, by Mr. Cowie's more elaborate descriptions, will be of any use as a very unpretending appendix to Genl. Cunningham's valuable paper. But so many of us now go to Kashmir and miss much that is interesting from the want of any trustworthy guidebook, that small contributions of actual experience may be useful as enabling travellers to study a phase of architecture not only noticeable for its beauty and grandeur, but historically important, as giving ocular demonstration of the influence exercised by the Greek Kingdom of Bactria on the neigh-

bouring parts of India. He who wishes to understand the style, should at least take care to visit the temples of Bhaniyar; the Takht-i-Suleiman (the oldest of all); Pandrethan (about four miles above the upper end of the city of Srinagar, in a pond, and hidden by trees, so as to be hard to discover); Aventipura, Bhaumajo, and Martund. I would only venture in conclusion to raise a protest against Genl. Cunningham's name of the *Aryan style*, which seems objectionable for two reasons, as applying the designation of a main division of the human race to the art of an insignificant province, and so founded on a mixture of two derivations. Why not the Kashmirian style?"

3. From the Govt. of India, Public Works Department, the Report of the Archæological Surveyor to the Govt. of India, for the season 1863-64.

4. From R. H. Barnes, Esq., abstract of Meteorological Observations taken at Gangaroowa in Ceylon, in March, April and May, 1864.

Mr. Blochmann submitted to the meeting a few queries on the palæography of India. He said:—

"It is very curious that nearly all those nations write from the left to the right, in whose alphabets the names of the letters, considered as words, have no meaning. On the other hand, those nations who write from the right to the left, use certain words as names for the letters of the alphabet that have meanings, which, moreover, are in most cases perfectly clear. A Greek on hearing the word 'Alpha,' thought of nothing else, but the first letter of his alphabet. With us also, the words *zed*, *aitch*, *ef*, &c. have no other meanings besides their denoting certain letters. In old Shemitic alphabets, however, the case is different. There, *aleph* (ox), *beth* (house), *nun* (fish), *kaph* (open hand), &c. signify (1) certain objects and (2) certain letters.

"On examination of the old Canaanitic alphabets, *i. e.* the alphabets of the Hebrews, Samaritans and Phœnicians, the following facts will be found to be true.

1. The words, used as names for the letters of the alphabet, express tangible objects only, never abstract ideas.

2. Each of these words commences with the letter which the word represents in the alphabet, *e. g. d*aleth (door) stands for *d*.

3. The oldest symbol for each letter represents a rude, but often very happy, drawing of that object which the name of the letter

denotes, *e. g.* the oldest symbol for *nun* (fish) represents a fish; the oldest symbol for *beth*, a house; for *aleph*, (the head of) an ox, &c.

4. The profiles of these rude drawings are drawn facing to the left. This is most remarkable.

5. There are no symbols for any vowel. For even *aleph* is reckoned in all Shemitic languages among the consonants.

"It appears then that the inventors of the oldest Shemitic alphabet selected from their language certain common words (there are 22), of which each was to express that letter, with which the word commenced. They appear to have then drawn in rude outlines the object, which each word denoted, and must have agreed moreover, to use in future exclusively the symbol, which they had once fixed. Thus they selected the word '*nun*,' to express the letter *n*, they represented the *n* sound by a fish, as the word *nun* means fish, and agreed to take in future no other word of their language, commencing with *n*, except *nun*, to represent the *n* sound. This ingenious limiting of the symbols forms, in my opinion, the stepping-stone from the hieroglyphics with its varying symbols, to our mode of writing.

"I made just now the remark that the profiles of the symbols chosen by the inventors of the oldest Shemitic alphabet, look always to the left. The symbols are drawn from the right to the left. This is exactly the way, in which every inexperienced draughtsman draws. Ask any child to draw several heads of men or animals in a horizontal line, at the side of each other. You will find, that all the heads look to the left. Is it not therefore but natural, that the old inventors of the Shemitic alphabet, unpractised as they were, should have likewise drawn the figures towards the left, and in putting the symbols together for the purpose of writing, have commenced from the right and passed on towards the left.

"We have abundant and striking proofs that the old Canaanitic alphabet is the basis of our modern alphabets. Even the legends of the Greeks and Romans prove it. The Phœnicians have been the writing masters of all nations on the shores of the Mediterranean Sea, (trading nations and the pioneers of civilization), although, for very strong reasons, they seem not to have been the inventors of the alphabet which they propagated.

"Now we might conclude, *à priori*, that the nations whom the

Phœnicians taught, should have found the symbols and the Shemitic names of the letters inconvenient enough. Hence the numerous changes, abbreviations and additions, in our Western alphabets. These changes were of course introduced very gradually. Thus the Greek letters ϕ, ψ, ω, were added by the Greeks during the 5th century B. C.; the letter G was invented by a freed slave in Rome about 230 B. C. (Plutarch's Quaest. Rom.), who put the new letter after our F, transferring the unroman Z to the end of the alphabet, where it has since stood. Again the letter W, the youngest letter in the world, is of Germanic origin, and found in English and German only.

"The pictures representing the letters were also more and more reduced, to two or three strokes. This changed also, though very gradually, the mode of writing from the right to the left. The *βουστροφηδόν* inscriptions form the metabasis to our writing from the left. They are the oldest Greek inscriptions we have. When once the symbols of the letters had become mere strokes, the *direction* of the strokes was a mere practical question. For if the writing commences at the left, the letters are liable to be effaced by the moving hand. For this reason, the modern Japanese also, write the letters in vertical columns commencing at the left.

"The ultimate origin of our English alphabet from a Shemitic alphabet explains its numerous deficiencies and redundancies. It is a curious circular moving of circumstances, that we should now-a-days induce Shemitic nations to adopt a Romanized alphabet.

"The question arises now, whether the letters of the Sanscrit shew any resemblance to Shemitic symbols. Dr. Weber believes he has traced several most striking similarities. I should be glad, if any of the learned members could give me some information on the following points:

"1.—Is there any trace that the names of the letters of the Sanscrit alphabet have been longer in form? At present they are all monosyllables.

"2.—Are there differences in figure between the oldest symbols and the later ones, and are the oldest symbols clumsier and of more strokes?

"3.—Was Sanscrit ever written from the right to the left or *βουστροφηδόν*?

"4.—Was there at any time perhaps only one symbol for *k* and *kh*, *g* and *gh* and so on?

"5.—What are the legends or historical facts connected with the inventions of the Sanscrit letters or of alterations in the alphabet?"

Bábu Rájendralála Mitra, in reply, stated that the Pali in the Ariano-Pali inscription of Affghanistan was the only instance in which an Indian dialect was written from the right to the left, but the Arian characters were avowedly of Phœnician origin and they bore no relation to the indigenous alphabet of the country. They ran a parallel course in India for about three centuries during the domination of the Bactrians in the Punjab and Affghanistan, but never could take root by the side of the old Sanskrit, and fell into desuetude on the expulsion of the Sakae from India, and that never, since that time, nor before the introduction of the Arian, was Sanskrit ever written from the right to left. The oldest form of the Sanskrit characters known, the Bábu said, were the Lat characters, which, according to James Prinsep, were current six centuries before the Christian era. They were of indigenous origin, either originally invented, or designed from native models which existed in the country; probably the latter, judging from the perfection which they had attained at a very early period. With regard to nomenclature, the Sanskrit, he said, never had any thing in common with the cumbrous and unscientific system of the Semites. It never used the names of natural objects to indicate its literal sounds, nor force their rude figures to do duty for letters. However much the names of familiar objects may enable children to learn the alphabet quickly, they were by no means well adapted to convey the sounds they were intended to represent. The *alpha* of the Greeks, for instance, and the *alif* of the Persians, do not give any idea of the power of the letter, whether it was equivalent to *a*, *l* or *f*; and the *lambda* in the same way gives us four very dissimilar sounds when we want only one. The English was not open to this objection except in the cases of *w* and *z*. But the Sanskrit was superior to it, for with great scientific precision it names its letters after their pure literal sounds, added for the sake of pronunciation, to the fundamental uncoloured vowel *a* instead of mixing them with different vowels at random before and after them as in the English. Looking to its superior arrangement, classification, wonderful precision and thoroughly inde-

pendent character, the Bábu said, he could not believe that the Sanskrit alphabet was in any way related to any of the Semitic alphabets.

After some further conversation in which the Hon'ble. George Campbell, Bábu Rájendralála Mitra and the President took part, the subject was dropped.

The Librarian submitted his report of the additions to the Library, since the meeting held in July last.

LIBRARY.

The following are the additions made to the Library since the meeting held in July last.

Presentations.

*** *The Names of donors in Capitals.*

Smithsonian Miscellaneous Collections, Vols. I. to IV.—THE SMITHSONIAN INSTITUTION.

Smithsonian Contributions to knowledge, Vol. XIII.—THE SAME.

Constitution and Bye-Laws of the Boston Society of Natural History; with a list of the members.—THE SOCIETY.

Journal of the Boston Society of Natural History, Vol. VII. Parts 1, 2, 3, 4.—THE SAME.

Proceedings of the Boston Society of Natural History, Vol. IX. Pages 1 to 320.—THE SAME.

Natuurkundig Tijdschrift voor Nederlandsch Indië, Vols. XXIII. XXVI. XXVIII.—THE BATAVIAN SOCIETY.

Annual Report on the Improvement of the Harbors of Lakes Michigan, St. Clair, Erie, Ontario and Champlain, of Brevet Lieut.-Col. J. D. Graham, for the year 1858.—THE AUTHOR.

Report on Mason and Dixon's Line in relation to the intersection of the Boundary Lines of the States of Maryland, Pennsylvania and Delaware, with a Map, by Lt.-Col. J. D. Graham.—THE SAME.

The Journal of the Royal Asiatic Society of Great Britain and Ireland, Vol. I. Part 2.—THE SOCIETY.

A Lecture delivered at the Dacca Exhibition of 1864, (in Bengali), by Kassicanto Mookerjea.—THE AUTHOR.

On the Identity of Xandrames and Krananda, by E. Thomas, Esq. —THE AUTHOR.

Gobardhone Áchárya's Árya Saptas'atí আর্য্যসপ্তশতী by S'oma Nátha Mookerjea.—THE EDITOR.

A Collection of Treaties, Engagements, and Sunnuds relating to India, and neighbouring countries, Vol. VII.—THE GOVERNMENT OF INDIA.

Selections from the Records of the Government of India, Public Works Department, Reprint, No. 2 —THE SAME.

Proceedings of the Royal Society of London, Vol. XIV. Nos. 74, 75.—THE SOCIETY.

The Calcutta Christian Observer, Vol. XXVI. Nos. 304, 305.—THE EDITOR.

Memoirs of the Geological Survey of India, (Palæontologia Indica) Vol. III. Parts 7, 8.—THE GOVERNMENT OF INDIA.

Ditto ditto, Vol. III. Parts 7, 8 —THE GOVERNMENT OF BENGAL.

Ditto ditto, Vol. III. Part 8.—THE SUPERINTENDENT OF THE GEOLOGICAL SURVEY OF INDIA.

Report of the Committee of the Bengal Chamber of Commerce, from 1st November 1864, to 30th April, 1865.—THE BENGAL CHAMBER OF COMMERCE.

Annual Report on the Administration of the Province of Oude, for 1863-64.—THE GOVERNMENT OF BENGAL.

Memoirs of the Geological Survey of India, Vol. III. Part 2, and Vol. IV. Parts 2, 3.—THE SAME.

Annual Report on the Administration of the Bombay Presidency, for 1862-63.—THE SAME.

Report on the Administration of the Province of British Burmah, for 1863-64.—THE SAME.

Report on the Administration of the Bengal Presidency, for 1863-64.—THE SAME.

Report of Proceedings of the Government of India, Public Works Department, for 1863-64.—THE SAME.

Annual Report of the Geological Survey of India, for 1863-64.—THE SAME.

Annual Report on the Administration of the Straits Settlements, for 1863-64.—THE SAME.

Report on the Registration of Ozone in the Bombay Presidency, by Dr. H. Cook, for 1863-64.—THE SAME.

Report on the Police of the Town of Calcutta, and its Suburbs, for 1864-65.—THE SAME.

The Christian Intelligencer, Vol. XXXVII. Parts 2 to 8.—The Editor.

Selections from the Records of the Bombay Government, Nos. 88, 89.—The Bombay Government.

Zeitschrift der Deutschen Mörgenländischen Gesellschaft, Vol. XII. Part 1.—The Society.

Annual Report with Tabular statements for the year 1864, on the condition and management of the Jails in the North Western Provinces, by S. Clark, Esq.—The Government of the North Western Provinces.

Memoirs of the Royal Astronomical Society of London, Vol. XXXII. —The Society.

The Agra Law Journal, Vol. II. Nos. 15, 16, 17.—The Compiler.

Annals of the Lyceum of Natural History, of New York, Vol. II. Nos. 10 to 16.—The Lyceum of Natural History.

Memoires de la Société Imperiale des Sciences Naturelles de Cherboug, Vols. IX. X.—The Society.

Proceedings of the Society for the diffusion of useful knowledge in the Punjab, No. I.—The Society.

Report of the British Association for the Advancement of Science, for 1863.—The British Association.

Returns showing the Operation of the Income Tax Act in the North West Provinces, for 1863-64.—The Government of India.

Puráṇa Sangraha, পুরাণ সংগ্রহ by Bábu Kaliprosonno Singh, Part 15.—The Editor.

Journal of the Statistical Society of London, Vol. XXVIII. Part 2, with a list of the members.—The Society.

Proceedings of the Royal Geographical Society of London, Vol. IX. Nos. 3, 4.—The Society.

Proceedings of the Natural History Society of Dublin, Vol. IV. Part 2.—The Society.

The Journal of Sacred Literature and Biblical Record, by H. Cowper, Vol. VI. No. 14.—The Editor.

Abhandlungen für die Kunde des Morgenlandes Gesellschaft, Vol. III. No. 1.

Exchanges.

The Athenæum, for May and June, 1865.

The Philosophical Magazine and Journal of Science, Vol. XXIX. Nos. 198, 199, and Vol. XXX. No. 200.

Purchases.

The Ferns of British India, being figures and descriptions of Ferns from all parts of British India, by Capt. R. H. Beddome, Parts 3, 4.

Iqbál Námah-i-Jahángirí اقبال نامه جهانگيري, Persian MS., Vols. I. II.

Kávya Kalápa, काव्यकलाप by Hurreedoss Heerachánd, Parts 1, 2 and 3.

S'ri Pingaládars'a, श्रीपिंगलादर्श by Kávi Heerachánd Kánjee.

Braja Bháshá Kávya Sangraha, ब्रजभाषाकाव्यसंग्रह by the same, Parts 1 and 2.

Dictionnaire Classique, Sanscrit-Français, par E. Burnouf, Part 6.

Pre-Historic Times, as illustrated by ancient remains and the manners and customs of modern Savages, by Sir John Lubbock.

India, under Dalhousie and Canning, by the Duke of Argyle.

Le Bouddisme; ses dogmes, son Histoire et sa Litterature, par M. V. Vassilief.

The Annals and Magazine of Natural History, Nos. 89, 90, 91.

Comptes Rendus de l'Academie des Sciences, Tome LX. Nos. 19 to 26, and Tome LXI. No. 1.

Indische Studien, von Dr. A. Weber, Vol. IX.

Journal des Savants, for May and June, 1865.

Revue des Deux Mondes, for May and June, and 1st July, 1865.

Revue et Magasin de Zoologie, Vol. XVII. Nos. 4, 5.

Annalen der Physik und Chemie, von J. C. Poggendorff, Band CXXIV. Stück IV. and Band CXXV. Stück 1.

Orient und Occident, von Th. Benfey, Vol. III.

The Edinburgh Review, Vol. CXXII. No. 249.

The Natural History Review, Vol. IV. No. 19.

The Westminster Review, Vol. XXVIII. No. 55.

The Quarterly Review, No. 235.

Exotic Butterflies, Part 55, by W. C. Hewitson.

Sanskrit-Wörterbuch, by Bohtlingk and Roth, Vol. IV. Bogen 61—76.

Uber die Aechten Kirgisen, by W. Schott.

Genera et Species Staphylinorum, by G. F. Erichson.

Sept 6th., 1865. LAL GOPAL DUTT.

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR NOVEMBER, 1865.

The monthly General Meeting of the Asiatic Society of Bengal was held on the 1st November, 1865.

A. Grote, Esq., President, in the chair.

The minutes of the last meeting were read and confirmed.

Presentations were announced—

1. From Capt. A. B. Melville; ten Stereoscopic photographs illustrating some of the Buddhist monasteries and remains of Kashmir and Ladak.

2. From Dr. John Anderson; specimens of two monkeys.

3. From Mr. Grote; a specimen of *Carpophaga bicolor*.

4. From T. Boulton, Esq.; specimens of *Corvus Splendens* and *Oriolus melanocephala*.

5. From Babu Rajendra Mullick, specimens of a white pea hen, a Cassowarry, a Nilgai, and a pony 30 inches high.

6. From A. C. L. Carlyle, Esq.; a live Python.

7. From F. Fedden, Esq.; Geological specimens from Burmah and the Shan States. The following letter accompanied the presentation.

"I have much pleasure in sending herewith a few geological specimens, collected during my trip through Burmah and the Shan States. Those from the Salween river exemplify the remarkable polish, and also the peculiar black coating, that some of the rocks in its channel have received. Among the bones and osseous remains from the sand and pebble cliffs on the east bank of the Irawaddee, near Yoynan Khyoung, there may be something of interest, or worthy of the Museum."

8. From S. Jennings, Esq.; specimens of oceanic shells.

9. From Babu Gour Doss Bysack; a specimen of a Gecko from Bagerhaut.

10. From Messrs. Saché and Westfield, through Dr. Boyes Smith; 2 photographs of groups of the Andamanese who lately visited Calcutta with Mr. Homfray. These were accompanied by careful measurements and the following notes by Dr. Smith, and also a partial vocabulary of the Andaman language.

Note.

"Seven aboriginal Andamanese were brought, in September last, to Calcutta, by Mr. J. N. Homfray, Harbour Master and Assistant to the Superintendent, Port Blair.

"Through the courtesy of Mr. Homfray, the opportunity was taken advantage of, for recording a few observations regarding their Ethnological peculiarities.

"The result, in abstract, is shown in the following table of measurements.

"These were taken by my friend Dr. J. P. Colles and myself.

"Photographs of the individuals in question were carefully executed by Messrs. Saché and Westfield, Photographers, of Calcutta; and well-mounted copies of these, displaying the individuals in groups, clothed, and in a naked state, were kindly presented by those gentlemen, through me, to the Asiatic Society.

"It may not be uninteresting to note the general impressions formed of these primitive people by those to whom they were absolute strangers.

"In general appearance they were certainly not dignified;—being of short stature, with rather ugly physiognomy, and complexions almost as dark as Africans. The women were for the most part rotund and inclined to corpulency; although one of their party—*Annie*, a girl of 14—was well-grown, and displayed decided symmetry of form.

"Five of the party were females, one an adult male, and one a boy aged 11.

"The man, who was 30 years of age, was rather slight and active looking. But he already showed signs of failure of strength from age. Indeed he had *Arcus Senilis* in both eyes. Their race is essentially short-lived. The boy was quick and active, and presented a very ready intelligence and a keen sense of the ridiculous.

"The name of the adult male was *Eeröla*. His wife's name was *Channa Darōla* (Æt 22). She was the mother of three children.

"The boy's name was *Kaalūl ch*,—his *alias* being "Sidi Sahib."*

"Of the four remaining females, who were all unmarried, two were called *Poonigōla*, the third *Beeröla*, and the fourth *Lockatōla*; the English names which had been bestowed upon them being respectively:—'Sarah,' 'Annie,' 'Louisa,' and 'Pugnose!'

"On looking carefully at this interesting group, one was at first struck with their quiet demeanour, docility and good temper. They wandered about peaceably, each one absorbed in the pleasure of smoking tobacco. Indeed their greatest happiness seemed to be in this indulgence. As soon as one cheroot was consumed, they lighted another from it, and so continued to smoke all day long,—spitting continually the while.

"From time to time they would throw themselves on the ground, and enjoy a solitary *Siesta*; but they had not been many days within the limits of civilization, when they showed a decided preference to easy chairs and cushioned seats. Indeed it was somewhat ludicrous to observe the air of *insouciance* with which, even in the midst of a party of Europeans, they would appropriate arm-chairs, sit down on them with legs extended, and thus, perfectly at ease, smoke and spit as usual.

"At other times they would be roused to greater activity; and they were wont to go abroad together, through the streets of Howrah, (when they were living with Mr. Homfray), gazing and being gazed at—the 'observed of all observers.' They showed no fear of going about in this way in the midst of the general native population. On the contrary, when annoyed by a crowd forming around them in the street, as occasionally happened, they were not slow to seize any rope or stick that might be at hand, and thus vigorously to disperse the assemblage of astonished Bengalis. This, however, was on the whole carried out in a good-tempered way, and seldom with any show of real anger. They were always peculiarly open to receive acts of kindness; and they smiled most favourably on any individual who gave them tobacco or articles of apparel, however worn-out or grotesque they might be.

"They called Mr. Homfray, 'Mijoōla'—'*Protector*;' and they evidently recognised his power and authority.

"He was good enough to allow Dr. Colles and me to remain in his

house, for an hour or two, watching their peculiarities. "We could not but be struck with Mr. Homfray's good management of those under his care, and with his extreme kindness to them, coupled with great firmness and constant consideration for their wants. In a moment they seemed to see whether he was in earnest or in play. On the whole he made himself very quickly understood; and they obeyed him readily.

"On his desiring them to do so, they plunged into a tank and displayed great rapidity in swimming. When they are at home, great part of their time is passed in the water.

"The regular occupation of the men—in their state of nature—is to look out for and collect food. At one time they subsist upon roots and herbs; at another they hunt the wild pig of the jungles. This sport has been rendered much more easy to them since they have possessed themselves of dogs,—brought to their islands by Europeans, or subsequently bred there.

"They also succeed in adroitly killing fish with the bow and arrow, which implements are of the most primitive description: the bow being composed of a single piece of wood, about 4 feet in length, roughly flattened on one side, and merely stripped of its bark on the other; the cord was made from the stem of some creeping plant; the arrows consisted of pieces of wood, about 2 feet long, roughly sharpened at the end, sometimes having an iron spike rudely attached.

"The chief duty of the women is to draw water and to attend to the keeping alight of fire.

"If Mr. Homfray be correct in his opinion, it would appear that before the arrival of Europeans amongst them, the Andamanese were absolutely ignorant of any means by which to strike light and to obtain fire artificially. In consequence of this ignorance, the women were required to be most careful that no fire should be extinguished, without a fresh one being prepared and lighted.

"In journeying about their native wilds, this duty of perpetuating fire on the line of march is particularly insisted on;—the custom being for the women to carry the fire in front of them, close to the chest, so that it shall be protected from wind and other external agencies.

"The Andamanese men in their wild state are absolutely naked. The women have a twisted band of woody fibre round their loins,

which terminates in a sort of large tassel behind; and to this band or cord, in front, they attach a broad leaf which covers the parts characteristic of sex. This leaf serves the object for which it is employed much better than might be supposed by any one who had not seen it in use. Before applying the leaf, they strip from the back of it a portion of the midrib, which adds to its pliancy, and renders it easy of adaptation as required.

"The woody fibrous band round the loins is called '*Bŏdăh*;'—the leaf, '*Wāārda*.'

"It is the custom with this people always to have the head shaved, leaving merely a faint line of hair, (cut quite short and not more than quarter of an inch in breadth), down the middle line of the back of the head,—exactly corresponding to the portion in which a parting of the hair commonly occurs in the case of Europeans. The shaving process is effected with any piece of glass, a broken bottle, or the like.

"The heads of the women are peculiar in shape, having a distinct furrow of some depth running across from behind one ear to a corresponding point on the opposite side, over the top of the head at the vertex. This particularly strikes the attention of the stranger.

"It appears that this furrow results from the custom of the women to carry wicker baskets on the back of their shoulders, which baskets hang down from the head, being suspended by a band or cord, which, by pressure, gradually causes the depression alluded to. No such furrow is seen in the skull of any *male* Andamanese, as *they* never carry weights suspended from the head. This characteristic is interesting, and would probably suffice in most cases to distinguish the cranium of the female from that of the male, even after death.

"The Andamanese do not *tattoo* their bodies. But instead of this, they are in the habit of scoring or cutting themselves freely with broken glass. Marks thus produced are readily distinguishable in the photographs presented to the Society. This process of cutting the body is called '*Beedmudda*.' I was informed by a gentleman who happened to come with this party of Andamanese to India, that shortly after embarkation, they suffered from sea-sickness, and being very miserable, they endeavoured to relieve their sufferings, by gashing each other, particularly about the head, with fragments of broken bottle. This was done until they bled freely. Indeed the marks of

this process, recently carried out, were very apparent on the forehead of one of the females. These marks are also distinguishable in the photographs. Their custom is to plaster some mud over the wound, after the operation is completed to their satisfaction.

"I mentioned that in their wild state this class of people scorn ordinary clothing. But for the sake of decency, and to meet the requirements of a more polished civilization than they themselves had any knowledge of, they were, on leaving their homes, required to wear clothes;—a suit of blue serge being supplied to each of them. At first, doubtless, this clothing was irksome to them; but it was curious to see how quickly they seemed to accustom themselves to it, and indeed how timid they became when told to undress and bathe in the tank. This modesty they could not possibly have had an inkling of, a month before. But now that they were in the presence of people who were always scrupulously clothed, they could, by their remarkably quick powers of perception, at once see that *a something peculiar and undignified* was implied in openly appearing without clothes. It was with some reluctance that they undressed in our presence; even although the women had, under their clothes, their ordinary amount of leafy covering over the *Mons Veneris*.

"At the studio of Messrs. Saché and Westfield, where several gentlemen—strangers to the Andamanese, were present when the photographs were being taken,—we encountered positive difficulty, in inducing them to group themselves, stripped of their European clothes. That difficulty overcome, however, it was remarkable to observe how quickly they appreciated the fact that they were required to keep steady, and how willingly they did the best they could, when undergoing an ordeal, which is disagreeable even to those whose vanity it is pleasing.

"These good people—our Andamanese friends—went about with Mr. Homfray, systematically sight-seeing in Calcutta. They also went to Barrackpore and were much pleased at seeing the wild animals there in the Park. When anything particularly excited their wonder or delight they danced and laughed heartily,—calling on their companions to do likewise,—which injunction was at once impetuously acted up to by the whole party; nothing delighted them more than seeing themselves in a glass; and those who witnessed it, will not easily forget the absurdity of the scene, when Beerŏla, *alias* Louisa—a very solid representative of

Andamanese maidenhood, was seen by accident in front of a low cheval glass dancing with boisterous delight, on beholding the reflection of her own loveliness.

"These interesting, and, as far as we saw of them, very good-tempered foreigners—(albeit they are reported to think little of killing each other with bow and arrow on the slightest provocation,) met with much kindness on all sides during their stay in Calcutta and Howrah. They seemed to appreciate this kindness; and on my presenting them with a box of cheroots, they led me distinctly to understand that they hoped I would come to the Andamans, and that they would welcome me there;—of which fact I have not the slightest doubt, provided a sufficient supply of tobacco were simultaneously imported at Port Blair.

"During their stay in India they had collected a vast store of miscellaneous wealth, which was deposited in a seaman's chest of huge dimensions. This box was carefully padlocked. In a moment of love and condescension they laid open this El Dorado, that Dr. Colles and I might look and be satisfied. We did so. The trunk, which resembled an ordinary Regimental arms'-chest, and which was probably more than 4 feet in length and 2 feet high, was filled with fragments of cast off European clothing, clay pipes, tobacco, cigars, biscuits, cocoa-nuts, seeds of trees, and many other things which to them were worth more than gold. With all these things they were very happy; and as these cherished stores consisted of presents freely offered by the white man without any thought of barter, that simple collection of to us worthless articles will probably draw the hearts of those *aborigines* towards civilization, in a manner altogether satisfactory to the philanthropist.

"This party of Andamanese returned in the beginning of October in the 'Tubal Cain' with their kind protector Mr. Homfray; and I only hope that they are as happy now in their jungle homes as they appeared to be in scenes of refinement to which they so readily adapted themselves."

Measurements of seven Andamanese, taken in Calcutta on the 17th September, 1865 by Drs. J. Pureſoy Colles & D. B. Smith.

	Description of Measurements.	Names, ages and Sex, &c.								
		Name Eerola, Male, aged 30.	Name Channa Dorola, wife of Eerola, Female, aged 22, mother of 3 children.	Name Berrola alias "Louisa," Female, aged 14 or 15.	Name Lookotola alias "Pugnose," Female, aged about 14.	Name Kaululah alias "Sidi Salih," Male, aged about 11.	Name Poongola alias "Sarah," Female, aged about 15.	Name Poongola alias "Annie," Female, aged about 14.	Maximum.	Minimum.
		Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches
1	Height,	56	56¼	49¾	45⅞	44¼	52½	45⅜	56¼	44¾
2	From Anterior Superior Spinous process of Ilium to the ground, perpendicularly,	30¾	33	28⅝	31¼	27	32½	23	33	23
3	From point of Os Calcis to point of great toe,	8½	8	6⅝	8	6½	8¼	8½	8½	6½
4	From top of great trochanter to lower edge of external condyle of femur,	11½	12½	12	13	9½	13	13	13	9½
5	From Acromion process to tip of middle finger,	24½	24⅛	21⅜	24	19⅝	23	24⅜	24⅜	19⅛
6	From wrist joint to tip of middle finger,	7	6½	5½	6½	4⅝	6½	6⅝	7	4⅝
7	Circumference of chest round the nipples,	29	30	29⅝	29¼	23½	30¼	26⅜	30¼	23½
8	From one anterior superior spine of Ilium to the other,	7⅞	8½	8¼	8¼	7⅜	8⅝	8⅛	8¼	7⅜
9	Length of clavicle,	5½	4½	4⅞	5¼	3⅞	5¼	4¼	5¼	3⅞
10	Circumference of head, above eyebrows, ears and great tuberosity of occipital bone,	16½	18½	18	16	18½	19¼	18¼	19¼	16
11	From between eyebrows to occipital protuberance, measured along the vertex,	11¼	11½	11¼	12¼	11⅜	12	12	12¼	11¼
12	From lowest point of one mastoid process to that of the other, across the vertex,	11½	11	13⅛	13¼	13⅞	13¾	14¼	14½	11
13	From occipital protuberance to root of nose (with calipers,)	6⅜	6¼	6	6⅜	6⅜	6⅜	6½	6⅜	6
14	From one parietal protuberance to the other (with calipers,)	4¾	5¼	4⅞	4⅝	5⅜	5	5⅜	5⅜	4⅝
15	From angle to symphysis of lower jaw (with calipers,)	3¼	3⅜	2⅜	3¼	3⅛	4⅜	2⅞	4⅜	2⅜
16	From one acromion to the other, over spine of 7th cervical vertebra,	12	11⅜	11½	12½	10¼	12½	12¼	12½	10¼
17	Occipital protuberance to vertebral prominence,	6	5¼	4½	5½	4½	5	5¼	6	4½

Letters from Messrs. G. E. Porter, C. Boulnois, and W. P. Duff, Col. F. D. Atkinson, and Babu Joygopal Bysack, intimating their desire to withdraw from the Society were recorded.

The following gentlemen, duly proposed at the last meeting, were balloted for and elected as ordinary members.

Lieut. C. Macgregor.

P. Carnegy, Esq.

J. Middleton Scott, Esq.

The following gentlemen were named for ballot as ordinary members at the ensuing meeting.

D. Waldie, Esq., proposed by J. H. Robinson, Esq, seconded by A. Grote, Esq.

V. Ball, Esq., proposed by W. Theobald, Esq., Junior, seconded by H. F. Blanford, Esq.

S. Jennings, Esq., proposed by Mr. Grote and seconded by Mr. Blanford.

The receipt of the following communications were announced.

1. From Lieut.-Col. E. T. Dalton, Notes during a tour in 1864-65.

This paper of which the following is an abstract, was read by the Secretary.

There are in Maunbhoom architectural remains of two distinct types. Those which appear to be most ancient, are ascribed traditionally to a race called variously Serap, Serab, Serak and Srawaka, who were probably the earliest Aryan colonists in this part of India, as even the 'Bhoomij,' the oldest settlers of the existing races, declare that their ancestors found these ruins in the forests that they cleared. Similar traditions are extant in Eastern Singbhoom, where the early settlements of the Srawaks were broken up by the warlike Hos or Lurka Coles. The temple ruins of the Srawaks are found along the banks of the Damooda, the Cossai and other streams, especially the Cossai. Within a few miles of the station of Purulia and near that river, are the ruins of an old settlement called Palma. This the writer had not visited, but a description of the ruins, by Lieut. R. C. Money, had been received by the writer, and was quoted at length in the paper. At this site are "sculptures of perfectly naked figures standing on pedestals and under canopies, with Egyptian looking head dresses,—the arms hanging down straight by the sides, the hands turned in and touching the

body near the knees. At the feet of each idol, are two smaller figures with chowries in their hands, looking up at the principal figure, and on the pediment of each is an animal, differing in different sculptures." These figures Col. Dalton considers to be the images of the Tirthanacaras of the Jains. Other sculptures both at this place and at the village of Churra near Purulia are then described; among the latter two old temples of roughly cut stone, built without cement, and some large tanks.

Other temples at the village of Boram near Jaipore are of a similar character, and figures have been taken from them of a character similar to those of Palma. In a crypt near the temples was found a four-armed figure, now worshipped by the women of the place under the name of Soshti. This and other idols now worshipped by the Hindus, appeared to be of ancient date. Col. Dalton considers that the temple and figure, described by Lieut. Beavan in the Proceedings of the Society for April last,* are of the same age and character as the above.

Referring to the notice of the Jain Saint, 'Vira' by Professor Wilson, in the IXth. Vol. Asiatic Researches, Col. Dalton expresses an opinion that the temples above described mark the course of his pilgrimage, but that there were Jain settlements along the course of the rivers previous to his appearance [B. C. 500 or 600].

Some colonies of Jains still remain. One of these, bearing the name of Sárawaks, had been met with by Col. Dalton at a place called Jainfra, 12 miles from Purulia; and there are several similar colonies in Chota-Nagpore proper; but these have not occupied their present abodes for more than seven generations, and they all say that they came originally from Pachete. They are distinguished from the Moondah or Cole race by fairer complexions, regular features, and by their mode of wearing their hair in a knob rather high on the back of the head. "The Jains are divided into 'Yatis' and Srawakas—clerical and lay." From Central India thousands of these people annually visit Mount Surumeya for which their reverence is very great, as the place at which the Jain Parswa or Parswanath obtained 'Nirwana' 250 years before 'Vira.'

The latter part of the paper is devoted to a description of the

* See *ante*, p. 66.

Brahminical antiquities of Maunbhoom, which are ascribed by tradition to Vikramadit. The remains of the ancient city of Dulmi near the confluence of the Sobunreka with the Kurkari, are of this type, and these are described at length. The antique images of Vishnoo, &c., at this place are disregarded by the people, who prefer to worship a clay image of Kali in a shed. Col. Dalton attributes the Brahminical remains scattered about the wild regions of this province to early settlements of the Brahmins, prior in date to the invasion of Ram, celebrated in the Ramayun. The various kingly chiefs of the province all claim to be Kshetryas and therefore of Aryan descent, while the people whom they rule over are chiefly Bhoomij, who have the same ceremonies and language as the Moondahs of Chota-Nagpore. They have various legends, generally fables devised by the Brahmins, to account for their origin; but Col. Dalton considers it probable that their Aryan characteristics may be due to their being descended from the early Brahmin settlers, whose antiquarian remains are described in this paper.

2. From Gopinauth Sen, Abstract of the Hourly Meteorological Observations taken at the Surveyor General's Office in June and July last.

3. From Dr. Buhler, through Whitley Stokes, Esq., A notice of the Çaunaka Smiriti.

4. From Capt. J. Mitchell, a paper entitled "Additions to the knowledge of Silk."

5. From A. C. Carlyle, Esq., A note on some beetles and locusts taken at Allahabad.

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR DECEMBER, 1865.

The monthly general meeting of the Asiatic Society was held on the 6th instant.

A. Grote, Esq., in the chair.

The Proceedings of the last meeting were read and confirmed.

Presentations were announced—

1. From Capt. Hidayat Alli, a brass image of the Dhurm Rajah of Bhotan.

The following letter accompanied the donation.

"I have the honor to inform you that I have sent an image of one of the Dhurma Rajahs, found at Buxa when the place was captured, on the 7th of December, 1864. It is said to be 100 years old, and was worshipped by the Bhooteas.

"I, thinking it of some interest, have preserved it from destruction, and beg to present it to the Asiatic Society."

2. From Major R. P. Anderson; 12 copies of 'A brief analytical Review of the Administration of Lord Mornington, afterwards Lord Wellesley.'

3. From Babu Rajendra Mullick; a dead Gayal.

4. From the Government of Bengal; an Aerolite which fell near Sherghotty.

The following correspondence accompanied the presentation.

From S. C. BAYLEY, ESQ.,

Officiating Secretary to the Government of Bengal,

To the Secretary, Asiatic Society.

"I am directed by the Lieutenant-Governor to forward, for the Museum of the Asiatic Society, an aerolite which fell on the 25th August last in an upland appertaining to Mouzah Umjhiawar, in the Sub-Division of Sherghotty.

2. "I am also to forward, for the information of the Society, a copy of a communication No. 329, dated 5th instant, and enclosures, from the Commissioner of Patna, containing some particulars connected with the fall of the stone, which was witnessed by Hanooman Singh, a resident of Mouzah Ahilherrah, in Pergunnah Bilounjah, Thannah Nubbeenuggur. The further particulars promised by the Deputy Magistrate of Sherghotty will be communicated to you as soon as they are received in this office.

3. "I am to request that your Society will be good enough to cause all the particulars of interest connected with this Aerolite to be communicated to the authorities of the British Museum.

(Signed) "S. C. BAYLEY."

"*Dated 26th October*, 1865."

From W. C. COSTLEY, ESQ.,

Deputy Magistrate of Shergotty,

To A. HOPE, ESQ.,

Magistrate of Behar.

1. "With reference to your memorandum No. 838, dated the 26th instant, I have the honor to submit, as requested, a circumstantial report connected with the fall of the aerolite referred to therein.

2. "As stated in my demi-official note of the 23rd idem, forwarding the stone to you for your inspection, I at first doubted whether it was a true aerolite or not, in consequence of the colour being different from the one that fell in the Furreedpore District in 1850, which, if I recollect right, was brown in exterior appearance, and the flint or silica, of which and iron aerolites are chiefly composed, being distinctly apparent; but I find from Mr. Peppe, the Sub-Deputy Opium Agent, that there can be no doubt of its being a true aerolite, as he has already seen two that fell in this District, which presented a similar structure and appearance.

3. "The replies to the questions put by me, in conformity with the instructions contained in the letter sent from the Trustees of the British Museum, dated 23rd January, 1863, which was forwarded with your Memorandum No. 297, dated 12th May, 1863, have not been received; but Hanooman Singh, a resident of Mouzah Ahiherrah, in Pergunnah Bilounjah, Thannah Nubbeenuggur, who witnessed the fall of the aerolite, states that on the 25th August last, about 9

A. M., a stone fell from the heavens, accompanied by a very loud report, in some upland appertaining to Mouzah Umjhiawar, burying itself in the earth knee deep, and that at the time the sky was cloudy and of a dusky colour, the air calm, and no rain. He does not say what appearance the aerolite presented, whether it fell obliquely or straight down, and whether the stone was enveloped in fire or not; how soon after the stone was taken out of the earth, and if it was warm or cold; my questions have been put to elicit this information, as also the position of the beholder in relation to the aerolite, at the time it was falling.

4. "When examined, the stone was found to be broken in two pieces, but as it reached me in three pieces, I imagine that the smaller piece must have been chipped off by some accident afterwards. This piece is in the possession of Mr. O'Connor, Assistant Superintendent of Police, who will, I have no doubt, willingly make it over to you if required.

5. "The latitude and longitude of the spot where the aerolite fell, can, I fancy, be approximately obtained from the knowledge of its position with reference to known localities. But this information, which I do not at present possess, together with the replies to the queries put by me and noted above, will have to be furnished hereafter, as they appear necessary to make the report more ample, and can conveniently form an addendum to it."

On the proposition of the Chairman, the special thanks of the Society were unanimously voted to His Honor the Lieutenant-Governor for the presentation of this fine and valuable specimen.*

Letters were read—

From L. Bowring, Esq, Commissioner of the Province of Mysore, communicating a statement regarding some Aerolites which recently fell in Mudoor Talook, made by Mahamed Alli, Amildar.

"I have the pleasure to send you a statement regarding some aerolites which fell recently in the Mudoor Talook of the Mysore District. The details given, being clear and precise, may be interesting. We have not been able to ascertain that a third aerolite fell, as might be surmised from the evidence, but the two found are lodged in the Museum here. One is entire, the other in pieces, but the size and appearance of both are similar.

* The weight of the two pieces received is 11 lbs 2 ozs. 368 grs.

"Another curious phenomenon took place within a few days of this occurrence, in the Coorgul Talook of the Toomkoor district. A water-spout rose out of a tank with a great noise, and the column of water so formed swept over the country in the sight of many astonished villagers.

"Further, in the Mandium Talook of the Mysore District, a small '*Ghoonta*' or stone-lined tank, which had been dry for years, suddenly filled with water, which gradually subsided at the end of 13 days. There had been no rain previously.

(Signed) "L. Bowring."

"*Bangalore, 26th October*, 1865."

From Mohamed Ali,

To L. Bowring, Esq.

"I most respectfully beg to acknowledge the receipt of your honor's letter on the 2nd, dated the 1st instant, and to state the detailed accounts of the meteor stones which fell in this Talook at 7 A. M. of the 21st September, 1865.

"Shortly after the event had taken place, I went myself to the spot, and found out that one of the stones had fallen in a field at about a half mile distance from the other, but they had fallen in a straight line from the east to the west.

"It was apparent, from the shape of the holes in the sandy soil of both fields, that the stones had fallen slantingly inclined towards the north, and sunk in the soil, both holes being nearly three-fourths of a foot in depth and half in breadth.

"I examined the neighbouring hills and rocks very closely, but similar stones were not found in the locality; although there were several black stones on the land and hills, there was a good deal of difference between them and the stones which were said to have fallen from the sky.

"Consequently it could not be suspected that the villagers had spread a false report of the stones falling from the sky, to alarm the community of the Talook.

"The following statements of the people who were present at the time of the incident taking place will show the case to be a true one.

"In addition to the statements of the witnesses, myself and several other inhabitants of this Talook heard a report, just as if a cannon was

fired three times, at 7 A. M. of the 21st September, 1865, but the facts were not known until the stones were brought to the Talook Cutchery."

"*Kenda, an inhabitant of Annay Doddi in the Anay Hobli of the Muddoor Talook*—

Stated that at 7 A. M. of the 21st September, 1865, he was picking grass in a neighbouring Raghi field, at about 200 yards distance from the spot where one of the stones fell at the above time; this field belonged to Moodghiri, a Revenue Peon of the Talook.

Before the fall of the stone, he heard at once a report as of a cannon fired three times in the air, continued with a ringing sound for some time afterwards, just as if a hot or chain shot were fired in the air. Soon after this, he saw that something fell from the sky in the above field, obliquely from the north. On seeing this, he was extremely terrified, his eyes were closed up from the rush of the smoky dust which rose from the earth directly after the fall of the stone: he did not go close to it, because he thought that some calamity had descended there from the heavens: he immediately went away to the above village, leaving his grass picking, and informed the villagers at 12 A. M. of the same day.

The Thanna Duffedar and Peons came to his village at 6 P. M. of that day, whom he took to the spot and pointed out the place where the stone had fallen. The Duffedar first touched the stone with a stick, and when he found that it was safe to feel it with his hand, he took it out of the hole where it was buried half in the sand, bent northward a little.

The sky was very clear, with no clouds. He heard people say that the dew had fallen in the night previous, but he did not see any signs of it, because he went out late in the morning."

"*Channay Gowda, an inhabitant of Annay Doddi, who was present at 200 yards distance, at the time when the stone fell in the above field,*—

Stated that, at the above time and date, he was picking grass in a neighbouring field at about 200 yards distance from the place where the above stone fell; all at once he heard a report as of a cannon fired three times in the air, followed by a ringing noise like that of a chain shot. Shortly after this he saw something fall in the field of the Revenue Peon Moodgherri; on seeing this, he was highly terrified and

confused, his eyes were closed up from the shock of the fall, and rush of the smoky dust which rose soon after the fall of the stone on the ground, in his front. He did not go close to the spot, thinking that some devil or evil had come down from the heavens. Immediately he went away to the village and mentioned the above circumstance to the villagers, to which they replied that they would not go close to the stone, because it might be injurious to them. He did not go again to the spot with the Thanna Duffedar in that evening. He never saw such an event happen before this in his life, though aged about 70 years; nor had he heard any one tell a story of that description. Also he added that the sky was very clear and bright, no clouds or signs of rain upon it in that morning, but dew had fallen in the night previous.

"*Mullay Gowda, an inhabitant of Annay Doddi, who witnessed the other stone fall in the field half a mile distance from the other*—

Stated that, at the above time and date, he was picking grass in a neighbouring field at about 300 yards distance from the spot, where he saw the stone fall; he heard the report of a gun three times successively, followed by a curious ringing sound just as if a chain shot was fired from a cannon. On hearing this, he was extremely frightened and confused and nearly senseless, and while he was thinking about the noise he was hearing then, he saw something fall in the field of Ghenday Gowda of "Hoskerray" and a good deal of dust rose from the soil where the thing fell.

On witnessing the above fall, and hearing the curious noise he mentioned before, he was terrified, and did not think it advisable to remain there alone, consequently he returned to his village.

The stone fell from the north, rather obliquely than perpendicularly. He did not go to see it again, because he thought that some calamity or "Mari" (meaning his deity of evils) had come down on the land to ruin the community. Next day he went out to the spot with the Thanna Duffedar, who picked a sunken stone out of a hole, where it was broken into several pieces: they were sunk in the soil, inclined towards the north. He never saw such an incident at any time before this; also he added that the sky was clear with no clouds on it, but dew had fallen in the previous night."

"*Chin Naik, the Thanná Duffedar of Annay Hobli who picked the stones out of both spots*—

Stated that he heard, in the afternoon of the 21st September last, that a stone had fallen in a field of "Annay Doddi" sometime in the morning. Immediately on hearing this report, he went to the above "Doddi," where Kenda (the 1st witness) told him all that he witnessed in the morning, and took him to the spot, and pointed him out the place where he saw the stone fall: there he saw something black, half of which was buried in the sandy soil of the field.

First of all he touched it with a stick. When he found that it was safe enough, he took it out of the hole with his hands and brought it to the village, where he slept during the night. Next morning, Mullay Gowda (the 3rd witness) told him that another stone had fallen in the field of "Kenday Gowda" of Hoskerray, at about a half mile distance from that place. On hearing this, he took him to the spot and there he found a stone buried in a hole; he removed the sand from it, and found that it was broken into several pieces; he took the pieces out carefully, and saw that their colour and quality resembled that which he already had with him: afterwards he took the stones to the Talook Cutcherry with an "*Arzi*" of the Shaikdár of Annay Hobli."

"*Kencha, a Police Peon who went to the spots with the above Duffedar*—

Stated as above."

There were no other people at the time near the spots, who witnessed the stones fall on the ground; consequently I could not get any more particulars about them; therefore I conclude."

(Signed) "Mahamed Ali,
"*Amildar of Mudoor Talook.*"

"*Muddoor, 4th October,* 1865."

From R. E. Forrest, Esq., Etawah, some remarks on the Rock Inscriptions near Khâlsi in the Dehra Dhoon.

"I see that mention is made in General Cunningham's Archæological Report for 1862-63, published in No. CXXIX. of the Journal of the Asiatic Society of Bengal, of the rock inscription near Khalsi in the Dehra Dhoon, to which I drew his attention in 1860.

* * * *

which stood behind the inscribed boulder. From there he would recross the Jumna and proceed round the skirts of Budraj and along the foot of the hills, on the line of communication above indicated, until he came to the point where the Ganges enters the valley, and where the temples of Rikhekase now stand. From there he would go down the river to Myapoor. I make these conjectures for the following reasons. As I have before said, I was told of some ruins which lay opposite to the site of the inscribed boulder and on the other side of the river; I was told of other ruins ten miles to the east of these; not far from Rajpore, twenty miles more to the east, are what look like the remains of Buddhist temples; and twenty miles beyond this, and about ten miles from Rikhekase, are some extensive mounds and ruins. These may all belong to some later era. But the conjecture of the line of communication within the Doon itself in the time of the Buddhist supremacy seems probable enough, and it would have run along here. It would be of great interest if any Buddhists remains could be discovered at these points. A very ancient civilization did exist in this beautiful valley; in the very depths of the forests I have come across artificial mounds and groves of mango trees, which must have been planted by the hand of man.

"The ruins ten miles to the west of Rikhekase are near the village of Bhagpore. Here, on a spur not far from the village, are the remains of an ancient fort. A fortress stood here in comparatively modern times: for when Zabitha Khan, the Rohilla chief, invaded the Doon, he sat down before it. (He did not take it) But this was said to have been erected on the ruins, and out of the materials of a much older fort or city. And I was told of another boulder with an inscription on it, but I could never find it. The people said that the writing on it was such that even the most learned pundits could not read it.

"With regard to the inscribed boulder at Khâlsi, I may mention that the tradition with regard to it was that it had been placed above a pit full of treasure, so as to close up its month in fact! Some ten or twelve years ago a goldsmith of Dehra determined to unearth this treasure. He accordingly sank a pit in front of the boulder and tried to get under it. He is said to have dug out various articles, a brass lamp being one. But of course the tradition runs that, whilst he was digging, his wife and children died, and that just as he was about to

come on the treasure, he himself died! No one attempted any more excavations after that. The hole thus made in front of the boulder may have been one reason why the inscription did not attract notice sooner. It placed the spectator at some distance from the face of the boulder. A gentleman who visited the boulder before me, took the faint marks of the letters of the inscription for pebble marks, such as those with which the rocks along the edge of the Jumna immediately below are extensively scored. I had this hole refilled with the earth which had been taken out of it.

"Among the rubbings I send you, is a full size one of the elephant which is traced in outline on the right hand side of the boulder. A pundit at Dehra told me that *Gaja tama*, which is inscribed below it, meant the "proud" elephant. He had not seen the rubbing, which would have suggested the idea of the proud or rampant elephant to him.

"I see that I have forgotten to note in the right place, that if we suppose the line of communication to have existed along the northern border of the Doon, and "Srughna" to have stood around the Khâlsi boulder, the distance from it to Madawur or Madipur would be about 133 miles, as noted by the Chinese pilgrim."

Etawah, 18th November, 1865. (Sd.) R. E. Forrest.

The Council reported that Capt. H. Hyde having resigned his seat in the Council, E. C. Bayley, Esq. and Dr. D. Boyes Smith had been elected as members of the Council, also that Dr. D. B. Smith was appointed a member of the Natural History Committee.

The following gentlemen intimated their desire to withdraw their names from the list of ordinary members.

Capt. H. Hyde.

Col. H. N. Norman, C. B.

Baboo Juggodanund Mookerjee.

The following gentlemen duly proposed at the last meeting, were balloted for and elected ordinary members:—

D. Waldie, Esq.

V. Ball, Esq.

S. Jennings, Esq.

The following gentlemen were named for ballot, as ordinary members, at the next meeting.

A. Mackenzie, Esq., B. C. S.; proposed by Mr. H F. Blanford, seconded by Mr. W. L. Heeley.

Lieut.-Col. D. Brown, Commissioner, Tenasserim; proposed by Mr. Grote, seconded by Lt. R. C. Beavan.

Lieut. W. G. Hughes, Assistant Commissioner, Martaban; proposed by Lt. R. C. Beavan, seconded by Dr. J. Anderson.

Capt. T. C. Hamilton, Superintendent Police, Amherst; proposed by Lt. R. C. Beavan, seconded by Dr. J. Anderson.

Lt. G. Seaton, Conservator of Forests, Tennasserim; proposed by Lt. R. C. Beavan, seconded by Dr. J. Anderson.

A. Rattray, Esq., Hidgellee; proposed by Mr. J. G. Medlicott, seconded by Mr. H. F. Blanford.

J. H. Crawford, Esq, C. S.; proposed by Mr. Grote, seconded by Mr. H. F. Blanford.

Major A. Allen, Cachar; proposed by Mr. W. L. Heeley, seconded by Mr. J. W. Edgar.

The Rev. S. Barton, proposed by Mr. Grote, seconded by Mr. H. F. Blanford.

James Low, Esq., G. T. S.; proposed by Dr. Stoliczka, seconded by Mr. H. F Blanford.

J. G. Hicks, Esq.; proposed by Major Lees, seconded by Mr Blanford.

Baboo Ganendra Mohun Tagore; proposed by Mr. Grote, seconded by Mr. H. F. Blanford, for re-election.

The receipt of the following communications was announced—

From Messrs. Sherring and Horne of Benares; Description of ancient remains of Buddhist Monasteries and Temples and of other buildings recently discovered in Benares and its vicinity, with photographs and plans.

From J. H. Peppe, Esq. 'On the antiquities of Behar.'

From E. Thomas, Esq.; 'A list of Pathan Coins.'

From Baboo Goopee Nauth Sen; Abstract of hourly Meteorological Observations for August, 1865.

From A. Grote, Esq. on the part of the Rev. W G Cowie; 'On some Temples in Cashmere, with photographs and drawings.'*

From Lt. R. C. Beavan, 'Contributions towards a history of *Panolia Eldi*."

* Lent to the Society.

The Council reported in favour of a recommendation made by the Philological Committee to publish the Bádsháhnámeh and Alumgeer-námeh in the Bibliotheca Indica.

"The Badshahnameh of Abdúl Hamid-i-Láhouri gives the history of Shah Jehan for the first 24 years of his reign, and its continuation by Mahamad Waris closes with that Emperor's death.

"Sir Henry Elliot, in his Mahomedan Historians, gives the names of 9 works as authorities for this period; but one is apparently only an introduction to the Bádsháhnámeh, another an abstract of it; and with the exception of the 'Amal-i-Çáhih, by Mahomed Çálih Kanbée, none are works of celebrity.

"Regarding the propriety of publishing this work in the Persian Historical Series, there can, I think, be no question; for though the Bádsháhnámeh, being written by order of the Emperor, may be considered a Court chronicle, the author was certainly one of the most competent persons, as well as one the most elegant writers of his day; his history was written in the times during which the events it records occurred; and it is undoubtedly the best history of the period that we possess.

"The materials for a good text of this work are not as yet in the Committee's hands. The Council will, after obtaining this meeting's sanction to the publication of the work, endeavour to obtain other MSS. for collation with the single copy in the Society's Library. Meanwhile they propose to publish the Aulumgeer-námeh of Mahomed Kayim, which gives the history of the next reign, Aurungzeeb's; of this MS. the Society has several copies. The history relates the events of the first ten years of Aulumgeer's reign.

"When the author had completed this portion of his work, the Emperor issued strict injunctions that it should not be continued, and that no other author should write the chronicles of his reign.

"These injunctions seem to have been implicitly obeyed, as very little history indeed remains for the remainder of this reign that strictly speaking can be called a contemporaneous chronicle. Khâfi Khán's account of the times is that which has furnished Elphinstone with his materials, and he has preferred his account to that of Bernier, except where the latter was actually an eye-witness, and it is perhaps the best history we have for the latter portion of this reign, because for a very

great portion of the time the writer may be considered to be contemporary with the events he has recorded."

The Council submitted to the meeting a statement of what had been done by them as members of the Committee, which, on the President's invitation, had been formed in Calcutta, to raise subscriptions for a memorial to the late Dr. Hugh Falconer. The Committee had raised a subscription in India of some 4,000 Rs. in aid of the General Fund, to which the London Committee had called for contributions. This, added to the £1,450 already subscribed in England, would, it was hoped, suffice to carry out the proposal to found a Natural History Fellowship in the Edinburgh University. Dr. Falconer's bust had been undertaken by Mr. Butler, and for a duplicate of this bust for the Society's Meeting Room, 46 members had entered their names. The subscription list for this duplicate had been of course confined to members, and subscriptions had been in the first instance limited to 50 Rs. With the actual number of subscribers, however, 20 Rs. from each member will, the Council believe, be sufficient. Dr. Partridge, who has throughout kindly acted as Secretary and Treasurer of the Committee, has already written to Dr. Murchison to order the duplicate bust.

Mr. Oldham exhibited a fine series of stone implements of the Amiens or Post-Pliocene type, discovered by Messrs. Foote and King in the lateritic gravels around Madras. He addressed the meeting as follows:—

"It is now some two years since I had the pleasure of laying before the Society a fine series of chipped stone implements from the neighbourhood of Madras, and of making a few remarks upon them. Since then, as the researches of the Geological Survey of India have progressed, the attention of the gentlemen engaged in these enquiries has naturally been directed to these interesting remains. And as they advanced northwards, they continued to find evidences of the same kind. We have recently received a fine series of these, and, thinking it might be interesting to the members of the Society to see them, I have placed them on the table.

"Among these are several very fine specimens, the originals of some of the figures given in illustration of a valuable paper on these stone-implements by Mr. R. Bruce Foote, which has been printed by the

Madras Literary and Philosophical Society, and copies of which have been sent to the Society, and distributed elsewhere, although I believe the part of the Madras Journal, in which it will appear, is not yet issued. Many of the others are from the neighbourhood of Rachootee, collected by Mr. Charles Oldham, and some from the neighbourhood of Kurnool, chiefly collected by Mr. W. King. Those now on the table are unquestionably the finest yet seen in India, and many of them are as fine specimens of these peculiar forms as have ever yet been described anywhere.

"In the Madras presidency, so far as the officers of the Geological Survey have gone, they occur everywhere under very much the same conditions as have been already described by Mr. Foote. As regards the elevations of the places where they are found, they have now been traced up to nearly 2000 feet above the present level of the sea: and they have been traced from south of Madras northwards to Kurnool, a distance of some three degrees of latitude; not, of course, continuously; but at intervals, and wherever favourable conditions exist. And the Society will recollect that it is only a few months since, that specimens of identically the same general character, and even of very much the same material, were exhibited to them, picked up by Mr. Ball of the Geological Survey, in the country south of Parisnath in Bengal.

"Nothing very definite has been added to our knowledge as regards the age of these implements in the Madras presidency. Some of those more recently obtained, have been taken out of lateritic deposits, as well as those originally described by Mr. Foote. But the age of these lateritic deposits is itself not very definite. Bearing, however, on this important question of relative age, I have within the last few days received from Mr. W. T. Blanford, Depy. Supt. of the Geological Survey on the Bombay side, a statement of the highest interest. Many of the members of Society are perhaps not aware that, spreading over a large area, in the country drained by the upper waters of the Godavery and its affluents, there is a widely spread deposit of clays and gravels containing remains of large Mammalia, which are probably of the same kind as those which occur in the similar gravels and clays of the Nerbudda valley, and of which the Society possesses many specimens. From these gravels and in the valley of the Godavery, near Pyton, an

agate flake, bearing evident marks of having been artifically made, has been dug out recently by Mr. Wynne of the Geological Survey. This is a fact of great importance, and we must only hope that further research will tend to clear away any difficulties that now remain, and add to the history of these interesting relics of the early inhabitants of these countries."

Mr. Oldham also said he had brought to the meeting an antique of a very different age indeed. It was a specimen of the oldest fossil yet known, to which Dr. Dawson had given the name of *Eozoon Canadense*. These organisms were found in rocks very far below the horizon to which any trace of organic life had previously been carried. The specimen was a portion sliced from one of the original specimens from Canada, for which he was indebted to Sir Wm. Logan. And as it was most probable that many of the members here had not previously seen any specimens of this fossil, he thought it might prove interesting to the meeting.

Major Lees read the following communication from Mr. E. Thomas on double currency :—

At one of the late meetings of the Asiatic Society, (Nov. 1864), you noticed some calculations of mine, based upon Abúl Fazl's records of the authoritative exchange value of *coined* gold and silver in Akbar's reign, and seemed disposed to question the accuracy of the results obtained from these data, as to the ratio of gold to silver having, at that period, stood as 1 to 9.4. That this was the rate of exchange contemplated by the mint authorities of the day, their own figures conclusively demonstrate—but I am prepared to contend that the current market price of gold had been much lower, even if it had then reached the limit assigned to it in the public coinage. The question of degrees of purity does not affect the argument, as each metal was made as pure as Indian methods of refining admitted of. Now Abúl Fazl, at the conclusion of a very elaborate estimate of the cost of refining gold, charges for seigniorage, and comparative profit to the merchant bringing gold to the Mint for conversion, states that the " remainder of about half a tola of [refined] gold" is of the value of *four* Rupees. (Gladwin's Ayín-i-Akbari, I., p. 44.) Purchas's statement, which you have quoted, calculates the exchange rate at 1 to 10, which latter was the authorized equivalent in rupees for the

lâhi and Lâl-Jaláli gold mohurs. (Gladwin's "12 rupees" is a mistake for *ten*, which is the proper sum. A. A., I. 31. Num. Iron. XV., p. 171.) It seems to have been with the express object of simplifying the conflicting proportions of coin and metallic values and facilitating exchanges, that Akbar introduced many of his reforms. For instance, the old *round* Rupee was valued at 39 *dáms*, the new Jaláli was increased up to the value of 40 *dáms*. The old round mohur was worth 360 *dáms*, the Lâl-Jaláli was raised to 400 *dáms*. The original round mohurs were estimated at 9 Rupees. The new Iláhi and Lâl-Jaláli were designed to pass for the more manageable 10 Rs., in the possible design of getting rid of the inconvenient and uneven sum of *about* 9 to 1, at which metals and coins alike had approximately ranged.

But, to dispose of the over confident assertion that "9.4 to 1 is a relative value of gold to silver which never could really have existed," I would invite your attention to the following passage in Ibn Batutah, which, if correctly interpreted by the French translator, goes far towards establishing the fact that, in the early part of the fourteenth century, A. D., gold stood to silver, in Bengal, as *one* to *eight*. The passage in question is not to be found in Dr. Lee's English translation (p. 194.)

رايت الارز يباع فى اسواقها خمسة و عشرين رطلا دهلية بدينار فضى والدينار الفضى هو ثمانية دراهم و درهمهم كالدرهم النقرة سواء

"J'ai vu vendre le riz, dans les marchés de ce pays, sur le pied de "vingt-cinq rithl de Dehli pour un dinàr d'argent; celui-ci vaut huit "drachmes, et leur drachme équivaut absolument à la drachme d'ar-"gent"—Vol. IV., p. 210.

The text itself may be faulty and defective, but the intention seems to be to declare that the Dínár of the day, whether rated in gold or silver, was equal to 8 dirhams. The Mahommadan currencies of India, from 1211 A. D. to the date of Ibn Batutah's visit to Bengal, had been composed of gold and silver coins of identical weight (175 grains) and similar in form and device. These were introduced by Altamsh, being based probably on the ancient Indian *rati*, 100 of which (at 1.75 grains) would exactly constitute the amount, and designed to exchange, in fixed proportions, the one against the other. The exact rate of exchange has never yet been ascertained, and if Ibn Batutah's

meaning in the above extract is correctly rendered, it will determine many curious points in the history of the early Pathán currencies.

There is, of course, a difficulty in the word الفضي the *silver*, but taken in connexion with the *dirhams* mentioned in the same sentence, the *dinár* can only refer to the gold coin or its representative and equivalent, in short to the *sterling dinár*, whether estimated in eight *silver* dirhams or one *gold* piece. You might imagine that 25 *rotis* of rice would not be so great a bargain for a gold piece, but the author adds, in the next line, that these are Dehli *rotis*, and each equal to 20 western weights of the same denomination.

In conclusion, I would again call your attention to a point adverted to above, *i. e.* Akbar's desire to adjust the exchange to *ten*. Decimalization seems to have been a leading idea with the Moslems, from their first settlement in India; for Altamsh's 100 *ratis* is clearly an innovation upon the old Hindu theory of 80's in the 80 *rati Suvarna* and the 80 *rati Karsha*, which sum (singular to say) is reproduced in his silver pieces by Muhammad bin Tughlak, for the apparent purpose, if we may rely upon the 1 to 8, of securing an exchange of 10 new silver pieces for *one* old gold one (: 175 : : 8 : 140 : : 10.) Of course, if the *rati* is proved to consist of 1.8229 grains, the first item of this estimate will not hold good: as in that case the 175 grains weight must be derived from 3 *puránas* of 32 *ratis*, or 96 *ratis* in all, constituting the old *tola*. If you have any MSS. of Ibn Batutah in Calcutta, I should like you to examine this passage.

Upon the above letter, Major Lees remarked:—

Mr. Thomas has fallen into error. I did not question his calculations, nor the results he obtained from them. Both are doubtless correct: but what I did question, was the advisability of accepting the results he obtained from these calculations, based as they were upon mint regulations, during a period when the principle of a standard was but imperfectly understood even in Europe, and upon a unit of measure not accurately ascertained. None of the gold coins of Akbar (and they are many) which I have been able to procure, agree exactly with the description of the coins given in Abúl Fazl's history, in weight, and few even in device; and I have grave doubts, as to whether the regulations alluded to, or the system of coinage and currency, so elaborate in its details, which he has handed down to us,

was ever carried out in its integrity. Some of the gold coins, I am confident, were simply medals which never came into general circulation. Akber's new system of weights and measures was not very successful as a measure for the Empire, and I see no reason to suppose that his system of coins and currency was much more so. In those days, the limits of the Capital and the chief cities, such as Dehli, Lahore, Futtehpúr, &c. comprised, for the purposes of regulations, a large portion of the Empire, and it would not be inconsistent with possibility, that the value of gold in relation to silver in the Capital, where the treasures gathered by successive conquests were congested, should be as 1 to 9, while it was half as much again in other parts of India, should the monarch on the throne have chosen to melt up his millions of gold and issue gold coins at that rate. Had Mr. Thomas then confined himself to the record of Abúl Fazl, I should have had little to say further than I have already said, viz. that I mistrust the record; but he now goes further, and states that he is prepared to contend that the value of gold as compared with silver in the open market, in the time of Akbar, was much less than 1 to 9; that it was 1 to 8; and that it *had* been even less than that. In proof of this assertion he quotes again Abúl Fazl, who states that half a *tola* of refined gold was worth only Rs. 4, which would about give the required ratio. But I cannot follow the learned numismatist here, for if this statement will serve any purpose, it appears to me that it will serve to undermine the basis on which the whole of his argument rests. He says that the market rate in Akbar's time was as 1 to 9.4; and that Akbar's desire was to "adjust the exchange to *ten*;" but if the merchant valued half a *tola* of his gold as equal in value to Rs. 4, or in other words, if a *tola* was worth Rs. 8 in the open market—the rupee, according to Abúl Fazl, being 11½ *mashas* in weight and the *tola* twelve *mashas*—the rate would be ½ *tola* or 6 *mashas* equal to Rs. 4 or 46 *mashas*, *i. e.* 1 to 7¼. To prove this, it appears to me, would be to prove *too much*; for if the market rate was so low, I question the power of even the great Emperor to make the people pay so high as 9.4 of silver for 1 of gold. He could not have been ignorant of the futile endeavours of his predecessor Alaud-deen to obtain currency for his copper *tanks*, and to pass them off as equally valuable with gold and silver, and the disastrous results

which followed his foolish experiments in defrauding his subjects. Nor can we, I think, accuse the wisest monarch that ever sat on the throne of Dehli, of attempting to adjust a real value in exchange of 1 to 7½ to 1 to 10, which is the market rate given by Púrchas, the English traveller of the date. As I observe, however, that Mr. Thomas places as much faith in Gladwin's translation, as he apparently does in Abúl Fazl's figures, I think it right to mention that the former cannot be depended upon. Abúl Fazl does not exactly say that ½ a *tola* of gold *was about equal in value to Rs.* 4, meaning thereby more or less, the word he uses is *nazdík*, which I take to mean 'something less.' Abúl Fazl in treating of these matters is generally loose, he could not well be otherwise—there is usually something *more*, or something *less*, and when we consider that their system of weights commences with an imaginary point, *wahmiyah*, and runs through 7 or 8 imaginary weights, until it reaches a *sh'úr* which is about ½ a grain; and that the basis of the currency was the copper *dám*, which Abúl Fazl himself admits had an extremely fluctuating value in the market, we cannot expect very great accuracy, or accept the mint valuations of that time as a very faithful guide to the value of gold, expressed in silver, in the markets of the N. W. Provinces of India, about the middle and end of the 16th century. Had Mr. Thomas gone a little further into Abúl Fazl's accounts, he would have found it stated, that when 'Azad-ud-dawlah was *díwan*, "the Emperor, in the 29th year of his reign, issued orders that on the gold coins up to 3, and on the silver rupees up to 6 grains of rice, short weight should be allowed without deduction for wear and tear, they being counted as full weight, though if anything in excess, an allowance should be made, and the coins not (as heretofore) be considered full weight, if 9 grains in weight short. In accordance with this regulation, (*i. e.* Akbar's,) a *mohur* that was 1 *surkh* short was valued at 355 *dáms and a little more*, the value of 1 *surkh* of coined gold which is 4 *dáms*, and *a little more* ($\frac{1}{11}$?), being deducted. According to the *former* regulations, [Todar Mull's] for a deficiency of 1 *surkh*, 5 *dáms* were taken, and whatever was deficient in excess of [redacted] grains, if only half a grain, was estimated as 5 *dáms*, and for a deficiency of 1½ *surkhs* they took 10 *dáms*, and even exacted the full amount from those not quite up to this limit, whereas, according to the new regulations, the deduction was something

more than 6 *dáms* ($\frac{3}{11}$?) The value then was 353 *dáms* and *a little more* ($\frac{1}{11}$?) Again, the round rupee, which, although there was no difference between it and the square, either in weight or fineness, had been estimated at one *dám* less, was now fixed @ 40 *dáms* until 1 *surkh* short weight; and 2 *surkhs* short weight, which was before counted as 2 *dáms*, was hereby made 1 *dám and a little more.*"

Gladwin, I would observe, invariably uses the word *ruttie*, but no such weight is throughout mentioned by Abúl Fazl, and although both weights seem to have been similarly 8 *mashas*, I am not perfectly certain that they were exactly identical. His translation moreover of the above passage is very faulty, and one error which would vitiate all calculations made on the basis of his figures is, that he says the rupee was 11¼ instead of 11½ *mashas*. I have consulted five copies on this point.

"But when Azad-ud-dawlah was sent to Kandesh, Raja Todar Mull caused the value of gold *mohurs* to be fixed in rupees, and the deficiency on the mohurs and rupees, from the bigotry and self-sufficiency of his disposition, he again fixed at the old rates; and when Khalij Khan took the management of affairs, he confirmed what the Raja had done, except that the deficiency for which the Raja exacted 5 *dáms*, he caused to be estimated in account at 10 *dáms*, and if up to 1½ *surkhs*, at 20 *dáms*. Coins of a greater deficiency in weight he ordered to be reckoned as bullion." Abúl Fazl goes on to say that the Emperor's mind being occupied with other affairs, he did not notice these changes till the 36th year of his reign, when he directed that gold coins of 3, and silver coins of 6 grains short weight, should no longer be held to be of full weight; which was the only way to prevent mercenary people from defrauding others. Now, setting the "little more than 4 *dáms*" in the price of a *surkh* of gold against the "little more than 1 *dám*" in the price of 2 *surkhs* of silver, we would have a proportion of 1 to 8; but although all the copies of Abúl Fazl I have consulted agree in stating the price fixed by Akbar's regulation for a deficiency of 2 *surkhs* of silver as a little *over* 1 *dám* (یک دام و کسری) if one rupee or 11½ *mashas* = 40 *dáms*, and 1 *masha* = 8 *surkhs*, 2 *surkhs* would equal $\frac{4}{9}$ = $\frac{1}{23}$ *dáms*, or something less than one *dám*.

It is not easy, amidst so much confusion on points which properly require the utmost nicety in adjustment, to ascertain *exactly* what were the

mint valuations of Akbar's time; but as it is clear that the principle of a *standard* (and I would add that I here employ the term to signify the monetary unit,) was not understood, and looking to the impossibility, in any market, of preserving for any length of time invariable values for two or three metals, I do not think that these regulations, however accurate in comparison with all others which preceded them in India, will guide us much in ascertaining the rate at which silver exchanged for gold in the open markets of India.

With regard to the passage quoted by Mr. Thomas from Ibn Batutah, I see no reason to doubt its correctness. It is simply this: 66 Dehli *ritls* of rice sold for a silver *dínár*, the silver *dínár* being equivalent *in value* to eight drachmæ, and the drachma (the coin) being a drachma of silver *in weight*. There is no difficulty whatever regarding the author's meaning here. He makes no allusion to gold coins, and it is more than clear that he did not mean to do so, for although the French translator has freely rendered it *pour un dínár d'argent : celui-ci vaut huit drachmes*, the actual words of Ibn Batutah are "for a silver *dínár*, and the silver *dínár* equals eight *dirhams*," repeating the word silver each time he mentions the *dínár*, to prevent the possibility of any one making the mistake Mr. Thomas has evidently done. He may well say then that there is a difficulty about the word الفضي There is a difficulty: but it is one which the distinguished *savant* has himself made. For, if we read a very few lines further, we will find the following passage: ورايت الجارية المليحة للفراش تباع بدينار من الذهب واحد وهو ديناران ونصف دينار من الذهب المغربي واشتريت بنحو هذه القيمة جارية تسمى عاشورة وكان لها جمال بارع واشتري بعض اصحابي غلاما صغير السن حسنا اسمه لولو بدينارين من الذهب That is, "I have seen a very beautiful girl fit for a concubine sold for a single *dínár of gold*, which is equal *to two and half western dinárs of gold*. I myself bought for about the same price a girl named 'Aashúrah, who was possessed of exquisite beauty; and one of my companions bought a pretty little boy named *Lulu* for two *dinars of gold*."

Nothing can be plainer than that when Ibn Batutah says silver, he means silver, and that when he says gold, he means gold. Beyond this, however, I am sorry to say, I cannot so easily follow him. If the *drachma* of silver means the Greek *drachma*, no silver coin of the day that I am acquainted with will fit. Ibn Batutah came to India

in the time of Mahomed Shah Ibn Ghaias-ud-deen Toghlaq, and visited Bengal when Fukhr-ud-deen was *quasi* Sultan of Bengal. We have rupees of the period: but none of this weight. But again the question arises, what are the *dirham* mentioned by Ibn Batutah? It is not clear. I find several, viz.:—

The *old* full weight dirm (درم قديم تام)	= about	64	grains.
The *new* full weight (درم جديد تام)	= „	48	„
The short weight (درم ناقص)	= „	36	„
The Legal (درم شرعي)	= „	31½	„
The Western (درم مغربي)	= „	24	„
The Yamani (درم يمني)	= „	8	„
The Tabari (درم طبري)	= „	32	„

And there were no doubt very many others. The *ritl* of Dehli, if we knew its exact weight, would not help us much in this matter either; for weights and measures in India, whatever they may have been in books and accounts, in the markets have been so varied and fluctuating, that little dependence can be placed upon them; and a brochure published lately at Madras, by a Mr. Gower, on this subject, which I trust will attract the attention of Government, discloses such very extraordinary confusion to prevail throughout India, as to render quotations utterly valueless, and to involve all merchants who attempt to act upon them in very serious losses. Ordinarily the Delhi *ritl* was 1lb in weight, and supposing the silver *dinár* to be a rupee, it would make the price of rice about the same as it has been for centuries in Bengal.

And these fluctuations have been recognized for many ages in India. The gold and silver coins in the time of Ibn Batutah, as Mr. Thomas says, were of identical weights, but I fear we will find it difficult now, without a unit of measure to help us, to come at the exact value in exchange of the precious metals one against the other. Ferishtah even, who lived in Akbar's time, could not ascertain the exact weight of the *Chaital* of Ala-uddin. He says, "the *tankah* was 1 *tola* of coined gold and silver, and every silver *tankah* was equivalent to 50 copper *púl* (pice) which were called *chaitals*, but their weight has not been ascertained. Some say that they were 1 *tola* of copper, and others that they were like the *puls* of this time, which are equal to 1¾ *tolas*." Abúl Fazl says that the value of the copper *dáms* fluctuated very much, and that Akbar's valuations were for comparative calcula-

tions. I find also that in A. D. 1660-63 the price of the *pice* was sometimes 12, 13, 14, 15, 16, 19, to 24 to a *mamúdi*, and on this account the East India Company's accounts at Surat were kept in what was called book-râte pice, viz. 32 to the *mamúdi*, and although the rupee was nominally of the value of 2½ *mamúdis*, 8, 10, and sometimes 20 per cent. was given for the *batta* or exchange. Akbar's regulations are certainly extremely interesting, and to some extent valuable: but I do not think they are safe data for calculating the rate at which gold exchanged against silver, generally, in his times. Nor will the aptitude of these remarks apply solely to the mint regulations of Akbar, or of Oriental Potentates. In the reign of Henry VIII. the relative values of gold and silver were so inaccurately appreciated by the mint authorities of England, that, while they rated pure gold at only 60*s.*, they rated pure silver at 12*s.* the ounce, or 5 to 1. And in the reign of Edward VI., the value of gold, expressed in silver, was reduced even lower, or to 48*s.* the ounce. But not many years later, *i. e.* in 1551, or five years before Akbar ascended the throne, we find that, while gold was still rated at 60*s.*, silver was rated at 5*s.* 5*d.* the ounce, or a little more than 11 to 1; and I cannot find from any accurate source, that generally in India it was ever in more recent times much below this. The first silver currency at Athens dates from B. C. 512; the first gold coins, which were very debased, being struck about B. C. 407; and the copper about the same time. The gold in those days was scarce; few, if any, gold coins being struck until the time of Alexander the Great. At the same time gold was plentiful in India, for although we find no gold Bactrian coins, on the disruption of the Greek kingdom and the succession of the Indo-Scythic race of kings, we observe the silver to disappear and its place to be occupied by gold. In *those* days, certainly the relative values of gold and silver in India were very different from what they were in the times of Akbar, when India had a large coast trade, and means of obtaining silver from other sources. In the days of Solomon also, gold was so abundant, that silver was not taken into account (2 Chron. ix. 20): but Herodotus tells us (III. 93) that the rate at Babylon was 13 to 1, and Plato that in his time it was 12 to 1. Under the Republic at Rome, it was 13 to 1, and in the time of Julius Cæsar, it was about 12 to 1. In the reign of Constantine it rose to 15 to 1, and under

Theodosius it reached 18 to 1. Turning again to India, I find that in the reign of Aurangzéb, about 1675, or little more than half a century after the death of Akbar, silver exchanged against gold at Madras at the rate of 16 to 1. And this is indisputable, because it is given on the authority of Dr. Fryer, a member of the Royal Society, and a most trustworthy and honest writer, who travelled in India and Persia from A. D. 1672 to 1681. He has devoted a whole chapter to coins, weights and measures, giving apparently a most truthful and accurate account of those he found in use when he visited each place. Under the head of Fort St. George, and in speaking of the E. I. Company's mint, he says:—

The *standard* is 8 *matts*, and $\frac{5}{8}$ *matts* fine: our English 20s. is 9 and more. *Fanams* is $4\frac{1}{2}$ *matts* fine.

9 *pagods* weight make 1 ounce Troy, 16 *pagods* weight of silver is 1 *pagod* weight of gold.

$\frac{1}{2}$ *pagod* in 1000 is allowed for loss, in mint &c., &c.

Sir James Stewart in his "Principles of Money," published exactly a hundred years after Dr. Fryer left England, viz. in 1772, states the relative value of gold to silver as 1 to $13\frac{1}{3}$ to 1 to 14; and adds that before the discovery of America the proportion had never exceeded 1 to 10 or 11. In the face of these ascertained facts, I am disinclined to assume that the rate, generally, in India, was so high as 1 to 9.4, and I trust my esteemed and valued friend, Mr. Thomas, will pardon me for advocating my views so strongly. No one can be more sensible of the debt of gratitude we owe to Mr. Thomas for his careful, patient, and accurate enquiries into the coins, weights and measures of India,—enquiries which have placed him in the first rank of numismatists of the day. But though our objects may be in some respects similar, they are in one particular distinct. He is desirous of elucidating an interesting point in the currency and coinage of the kings of the East. I am desirous of showing that the fluctuations in the price—the market price, not the mint price—of gold are not, and have not been, so great, so sudden, or so startling as to cause the unnecessary alarm which many entertain regarding the proposal to change the standard. It is not in the East alone, that vain attempts have been made to perform the impossible feat of conferring the attributes of a standard upon two metals at one and the same time; and though silver and

gold coins may circulate side by side in any proper system of currency, one of these metals alone can constitute the monetary unit. That this, in every country in which commercial enterprise has had a high development, should be gold, the experience of history leaves us little room to doubt; for, although silver is still legally the standard in France, gold being permitted to circulate by its side, it has almost disappeared from circulation. It is with regret, therefore, that I observe that gold has not been made a legal tender in India, which, though a very different thing from making gold the standard, must, I opine, be the first step in this direction. That it can yet be said to be a depreciating metal I do not believe, because it is an established rule, proved beyond question by late experience, that the precious metals, like other articles of commerce, find their level, and the space to be occupied by gold is comparatively *immense;* but there is a proviso in this, as in most matters of the kind, and that proviso is, that legislative enactments shall not interfere with the circulation of either of these metals. That the most serious and the greatest caution is necessary in dealing with this question, all the most profound thinkers on the subject do not dispute; and the following figures will satisfy those who have not specially studied it, of its importance. At the commencement of the present century, the production of the precious metals in all those countries from which supplies come to Europe, was, according to von Humboldt, about £3,300,000 annually, of which £2,500,000 went to swell the gold currency of Europe. The working of the Oural mines tripled this annual tribute; and so things remained until 1848, when California was discovered. Shortly after, the gold deposits of Australia came to light, and in 1860 the annual supply was about £38,000,000; while during this period the supply of silver had hardly increased at all. At the opening of this century it was about £8,000,000, and at present is not more than £9,000,000. The entire quantity of pure gold which found its way to Europe from the discovery of America by Columbus, or from 1492 to 1848, a period of 356 years, was according to M. Chevalier £401,580,000; and, assuming the annual yield at present to be £40,000,000, we would in 10 years have a yield equal to the yield of the whole world for the 356 years previous. These influences, if continued, *must* in time have their effect, and it was with some concern therefore I learned that the Government of India had lately sent

back to Egland nearly a quarter of a million of gold sovereigns which the existing currency Act prevented from coming into circulation.

And as I see the Hon'ble Justice Campbell here this evening, I may mention that since he put his first question to me, I have met with Dr. Fryer's travels from which I have before quoted, and find that he makes mention of the *Zeraphin*. In one table he puts it under the head of imaginary coins, two and a half being equal to one old dollar. In other places he treats it as a real coin. At Goa, he says, one gold *Crusado* was equal to 12 *Zeraphins;* and at Bombay 3 *Larees* = 1 *Zeraphin;* 80 *Raies* = 1 *Laree;* 1 *Pice* = 10 *Raies*, *i. e.* 24 pice = 1 *Zeraphin*. This would not certainly agree with Purchas's statement that a *Zeraphin* was worth Rs. 10.

The Hon'ble Justice Campbell said—We must all feel greatly obliged both to Major Lees and to Mr. Thomas for their interesting discussions. When such learned Doctors differ, he will be a bold man who attempts to decide; but this, I think, may be clearly gathered, that in former days the value of gold in India in relation to silver was much less than it now is; and we may learn the lesson that, as it was so once, it may not improbably be so again. I think that there is perhaps some incorrectness in Major Lees's statement that in France silver, and not gold, is the only legal standard, and in the assumption that any metal can be a legal tender, and at the same time not a legal standard of value. I quite admit that, practically, when there is a double standard, one or the other will be preferred, and ordinarily used at any one time; but, as I understand the matter, there is, and long has been, legally in France what is called a double standard, that is, both gold and silver are recognised as standards, the relative rate being fixed by law. The effect is, to give to the payer in every case the alternative or option of paying either in gold or in silver, whichever he may at the time find most profitable. The double standard was fixed in France by the first Napoleon at a time when, as the relative rate was declared by law, it was more profitable to pay in silver: accordingly all, or almost all, payments were, and continued to be, made in silver, gold being only used as it were beyond the law, as marked bullion, at a mercantile and not at a legal value. This state of things continued so long, that in practice the existing contracts were not affected by the law of double standard. All new contracts were made

with full knowledge of that law, and there have been few complaints. When, of recent years, it has happened that, owing to the gold discoveries, gold has become slightly cheaper, and it being more profitable to pay in gold, France has quietly slided into a gold currency standard under the operation of the old Double Standard Law. Now, in India, the fear is that at the convenient rate of 10 Rupees per Sovereign, a change of currency and standard might be much more imminent and immediate than it was in France 50 years ago, when the law was made. If the gold diggings continue to produce plentifully, the sovereign might very rapidly displace the rupee; and those of us who have served our best days for a pension calculated in rupees, or lent money for an annuity in rupees, might think ourselves injured, if we receive instead cheap sovereigns. For it must also be remembered that the double standard, or rather change of standard, in France and other countries, has hitherto had a remarkable effect in steadying the relative value of the precious metals An immense quantity of gold has thus been absorbed, and an immense quantity of silver thrown on the market. But if, a few years hence, all the countries willing to receive gold have been supplied, and the influx continues, then what is to become of the surplus? Then perhaps the relative value of gold may be seriously lowered, and pensioners, holders of Government Securities, and others, might have serious grievance. I by no means assert that a gold standard in this country is not on the whole the best. I would only suggest that the subject is at present one to which there are two sides, and not by any means very easy.

Major Lees made some further observations on the necessity, in discussions on currency and the standard, of avoiding a confusion of terms, as such had in times past led to the commission of serious errors. He added that the law introduced into France by Monsieur Gaudin in March 1803 made the *franc* the monetary unit or standard, and that the ordinance admitting the parallel circulation of gold did not in any way abrogate the right of the lender to the State of 200 *francs* to receive back a *kilogramme* of silver, or its equivalent, in satisfaction of his claim on the State, whenever it should be liquidated.

At the request of the President, the Secretary read an extract from Mr. Cowie's paper on the temples of Cashmir, in introducing which the Chairman explained that it was too full of technical architec-

tural details to be read *in extenso* to the meeting. Mr. C. had, during his visit to the valley, devoted a great portion of his time to a careful examination, and to measurements of the interesting remains which he found there. Drawings and photograph of many of the temples would be found in the Album which accompanied the paper. The Chairman would ask the Secretary to read an extract from the latter describing the temple of Bhaniyar which was one not included in the previous account of General Cunningham. Before doing this, he thought it due to the General, to remind the meeting that his paper on the Cashmere temples was written after a short visit of three weeks which he made to that country, while engaged with others on a very difficult duty on the frontiers of Tibet. The General did not profess to have throughly explored the valley, nor to have exhausted the field of future research.

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL:

EDITED BY

THE GENERAL SECRETARY.

JANUARY TO DECEMBER,

1865.

CALCUTTA

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APPENDIX.

APPENDIX A.

Authors.	*Papers Communicated.*	*Author's date.*	*When received.*	*Pt. & No. of the Jrnl.*
Austen, Capt. H. H. G....	Notes on the Sandstone formation, &c. near Buxa Fort, Bhootan Dooar.	22nd Ap. 1865.	26th Ap. 1865	Pt. II. No. II. of 1865.
Barnes, R. H. Esq. ...	Ceylon Meteorological Register for March, April and May, 1864. ...	.....	1st Sept. 1865	Pt. II. No. IV. of 1865.
Basevi, Capt. J. P.	On the Pendulum operations about to be undertaken by G. T. Survey of India, with a sketch of the theory of their application to the determination of the earth's figure.	21st July, 1865	29th July, 1865.	Pt. II. No. IV. of 1865.
Beames, J. Esq. ...	Outlines of a Plea for the Arabic Element in official Hindustani ...	.....	17th Ap. 1865.	Pt. I. No. I. of 1866.
Beavan, Lt. R. C. ...	Contributions towards the History of *Panolia Eldi*. ...	5th Nov. 1865.	6th Dec. 1865.	
Blanford, W. T. Esq. ...	Contributions to Indian Malacology, No. V. Description of new land shells from Arakan, Pegu and Ava; with notes on the distribution of described species. ...	.....	11th Mar. 1865.	Pt. II. No. II. of 1865.
Bühler, Dr G. ...	Translation of the part of the Vyavahara Mayukha relating to ordeals.	.....	2nd June, 1865.	Pt. I. No. I. of 1866.
	A notice of the Çaunaka Smriti. ...	21st Sept. 1865.	26th Sept. 1865.	
Carlyle, A. C. L., Esq. ...	Notes on beetles and locusts taken at Allahabad. ...	2nd Sept. 1865.	25th Dec. 1865.	

Clarke, Hyde, Esq. ...	Letter on monument of the Assyro-Pseudo Sesostris. ...	20th May, 1865.	13th July, 1865.	
Cowie, Rev. W. G. ..	Notes on some of the Temples in Cashmere. ...	25th Nov. 1865.	1st Dec. 1865.	
Cunningham, Genl. A. ...	Archæological Survey Report for May, 1865. ...	.....	30th Augt. 1865.	
,, ,,	On the coins of nine Nágás and of two other dynasties of Narwara and Gwalior. ...	.....	13th July.	Pt. I. No. III. of 1865.
,, ,,	Daily Report of occupations of the Archæological Survey to the Govt. of India, for November and December, 1864. ...	.....	25th Jan. 1865.	
,, ,,	Concluding portion of the Achæological Survey Report for 1862-63.	.....	7th Jan. 1865.	
,, ,,	Diary of occupations for January, 1865. ...	... ..	May, 1865.	
Goopee Nauth Sen, Babu.	Abstract of the Results of the Hourly Meteorological Observations, for Oct. 1864. ...		4th Jan. 1865.	No. V. of 1864.
	,, for November, 1864.		21st July, 1865.	Ditto.
	,, for December, 1864.			Ditto.
	,, for January, 1865.		28th Mar. 1865.	Pt. II No. II. of 1865.
	,, for February, 1865.		12th May, 1865.	Pt. II. No. II.
	,, for March, 1865. ...		8th June, 1865.	Ditto.
	,, for April, 1865. ...		5th July, 1865.	Pt. II. No. III. of 1865.
	,, for May, 1865. ...		10th Augt. 1865.	Pt. II. No. IV. of 1865.
	,, for June & July, 1865.		12th Sept. 12th Oct. 1865.	Ditto.

Authors.	*Papers Communicated.*	*Author's date.*	*When received.*	*Pt. & No. of the Jrnl.*
Goopee Nauth Sen, Bábu.	Abstract of the Results of the Meteorological Observations, for August, 1865. ...	25th Nov. 1865.	25th Nov. 1865.	
Horne, C. Esq. ...	Notes on Boodh Gya, with an Appendix. ...	20th Ap. 1865.	24th Apl. 1865.	Pt. I. No. IV.
Jæschke, Rev. H. A.	Note on the pronunciation of the Tibetan language.	.....	1st February.	
Mason, Rev. F. ...	Answers to the "queries for travellers," embracing the physical characteristics of the Karens. ...	8th Nov. and 3rd Dec. 1864. ...	7th Jan. 1865...	Pt. I. No. II. of 1865.
Mitchell, Capt. J.	Additions to the knowledge of silk.	27th Sept. 1865.	9th Oct. 1865...	
Parish, Rev. C. ...	Notes of a Trip in the Younzalin Dst.	.....	30th June, 1865	Pt. II. No. III. of 1865.
Peppe, J. H., Esq. ...	Antiquities of Behar. ...	9th Nov. 1865.	20th Nov. 1865.	
Rajendra Lala Mittra, Bábú,	On the Sená Rájáhs of Bengal, as commemorated in an Inscription from Rájshahi ...	... ..	5th July, 1865.	Pt. I. No. III. of 1865.
Schlagintweit, Prof. R. von.	Comparative Hypsometrical and Physical Tableau of High Asia, the Andes and the Alps. ...	28th Oct. 1865.	15th Dec. 1865.	
Semënof, M., Esq. ...	Notes on Central Asia. ...	1st Oct. 1859. ..	15th Ap. 1865.	Pt. II. No. III. of 1865.
Sherring, Rev. M. A. and C. Horné, Esq. ...	Some account of ancient remains at Saidpur and Bhitari. ...	.....	4th Jan. 1865. ..	
Ditto ditto,	Description of ancient remains of Buddhist Monuments and Temples, and of other buildings recently discovered in Benares and its vicinity.	.....	20th Nov. 1865.	
Smith, Dr. D. Boyes, ...	Notes on Andamanese. ...	17th Sept. 1865.	.....	Proc. No. VI. 1865.

Stewart, Dr. J. L. ...	Notes of observations on the Boksas of the Bijnour District. ...	December, 1865.	10th Jan. 1865.	Pt. II.No. III. of 1865.
Theobald, W. Esq., Jr. . .	Notes and Queries on Zoology. ...	22nd Nov. 1865.	20th Dec. 1865.	
Ditto ditto.	Notes on a collection of Land and Fresh-water shells from the Shan States, collected by F. Fedden, Esq., 1864-65. ...	17th June, 1865.	July, 1865. ...	Part II. No. IV. 1865.
Thomas, E Esq. ...	Ancient Indian Weights of the earliest Indian Coinage. ...	.....	15th Mar. 1865.	Pt. I. No. II. of 1865.
	List of Pathan coins. ...	December, 1865.	28th Dec. 1865.	
Verchere, Dr. A. M., and Edouard de Verneuil, Esq.	On the Geology of Kashmir, the Western Himalaya and the Afghan mountains, with a note on the Fossils. ...		*11th Mar. 1865.	

* Returned to the author at his request, for additions and corrections.

APPENDIX B.

Donors.	*Donations to the Museum.*
Dr. J. Anderson.	Presbytes entellus.
	Trionyx Gangeticus.
	Crocodilus porosus.
	Canis aureus.
	Herpestes Nipalensis.
	Coluber naja.
	And a collection of bird skins from Darjeeling.

W. S. Atkinson, Esq. A collection of Lepidoptera, viz. the following

Rhopalocera.

Teinopalpus	Imperialis,	...	...	...	1
Papilio	Macareus,	...	...	...	1
P.	Xenocles,	...	...	...	2
P.	Agestor,	...	...	..	2
P.	Chaon,	...	...	...	2
P.	Paris,	...	...	..	2
P.	Ganesa,	...	...	..	2
P.	Cloanthus,	...	...	...	2
P.	Bathycles,	...	...	...	1
P.	Agamemnon,	...	...	...	2
P.	Antiorates,	...	...	...	2
P.	Antiphates,	...	...	...	2
P.	Glycerion,	...	...	...	2
P.	Epycides,	...	...	...	2
P.	Slateri,	...	...	...	2
Iphias	Glaucippe,	...	...	...	1
Colias	Edusa,	...	...	...	2
Pieris	Hippo,	...	...	...	2
P.	Darvasa,	...	...	...	2
P.	Gliciria,	...	...	...	2
P.	Thestylis,	...	...	...	2
P.	Belladonna,	...	...	...	1
P.	Pasithoe,	...	...	...	1

P.	Thisbe,	...	...	...	2
P.	Agostina,	...	...	...	1
Danais similis,		...	...	...	2
D.	Melaneus,	...	...	...	2
D.	Tytia, ...	...	...	...	2
Euplæa Rhadamanthus,		...	...	...	2
Eupl.	Superba,	...	...	...	1
Eupl.	Midamus,	...	...	...	2
Vanessa Cashmirensis,		...	...	...	1
Pyrameis Callirhoe,		...	...	...	2
Precis Iphita,	...	...	...	...	1
Pr.	Hara, ...	...	...	...	2
Ergolis Ariadne,		...	...	...	1
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C.	Thais,	...	...	...	1
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T. Boulton, Esq.	Corvus splendens.	
	Oriolus melanocephalus.	
Lieut. R. C. Beavan.	Canis aureus.	
	Cynalopex Bengalensis.	
	Lepus ruficaudatus,	
E. Blyth, Esq.	Felis leo.,	2 skins.
	,, pardalis.	2 ditto.
	,, concolor.	1 skull.
	,, Onca,	Ditto.
	Ursus Americanus.	Ditto.
	Ursus maritimus.	Ditto.
	Dycoteles torquatus.	Ditto.
	Hydrochœrus Capybara.	Ditto.
	Dasypus sexcinctus.	
	Alces machlis.	
	Ara Macao, in spirit	
A. C. Carlyle, Esq.	A live Python.	
F. Fedden, Esq.	Geological specimens from Burma and the Shan States.	
J. A. Ferris, Esq.	Python.	
Baboo Gour Doss Bysack.	Gecko verus.	
	A meteorite which fell at Gopalpur near Bagerhaut in the district of Jessore on the 23rd May, 1865.	
A. Grote, Esq.	Felis chaus.	
Col. C. S. Guthrie.	Argus giganteus.	
	Polyplectron Hardwickii.	
Capt. Hidayat Alli.	Image of the Dhurm Rajah of Bootan.	
The Lt.-Govr. of Bengal.	Aerolite from Mouzah Umjhiawar in the Sub-Division of Sherghotty, which fell on the 25th August, 1865.	
C. Horne, Esq.	6 specimens of bricks from the ruins of Sarnath and Bakariya Khund, Benares.	
S. Jennings, Esq.	A collection of Oceanic Shells.	
Dr. T. C. Jerdon.	Calliope pectoralis.	
	Emberiza Stewartii.	
	Troglodytes Nipalensis.	
	Fringillauda nemoricola.	

Dr. T. C. Jerdon.	Heterura sylvana.
	Accentor Nipalensis.
	Pratincola Indica.
	Sitta leucopsis.
	Carduelis caniceps.
	Otocoris longirostris.
	Mirafra erythroptera.
	Vanellus cristatus.
	Pycnonotus leucotis.
	Emberiza cia.
	Saxicola isabellina.
	Garrulax lineatus.
	Serinus aurifrons.
	,, pusilla.
C. Lane, Esq.	Buceros cavatus.
Capt. Maddison.	Carpophaga bicolor.
	Oriolus melanocephalus.
C. Marquardt, Esq.	A live specimen of Gosamp.
J. Mitchell, Esq.	Ovis Ammon. Head.
F. Moseley, Esq.	Tropidonotus stolatus, in spirit.
T. Peachey, Esq.	3 stone images.
T. H. Pritchard, Esq.	Crocodilus porosus.
Capt. Pollock.	Sus Andamanensis. 2 skulls.
Baboo Rajendro Mullick.	Arctictis binturong.
	Phalangista Vulpina?
	Nycticebus tardigradus.
	Gazella dorcas.
	Bos frontalis.
	Equus Caballus, (dwarf).
	Portax tragocamelus.
	Lophophorus Impeyanus.
	Ceriornis Satyra.
	Rollulus cristatus.
	Anser Indica.
	Otis Bengalensis.
	Galloperdix Zeylonensis.
	Buceros albirostris.

Rajendro Mullick Babu,	Euplocomus nycthemerus.
	„ erythropthalmos.
	Perdix olivacea.
	Palæornis columboides.
	Gymnorhina organicum.
	Perdix Chuckor.
	Dromaius Novæ Hollandiæ.
	Chrysolophus pictus.
	Flamingo.
	White pea hen.
	Casuarius galeatus.
	Grus Antigone.
Dr. T. Stoliczka.	Carpodacus erythrinus.
	Procarduelus.
W. Theobald, Esq.	A fine series of Corals from the coasts of Aracan and a few crustacea. 2 Ostrea.
Lieut.-Col. A. C. Tytler.	Mus Frankii.
Dr. C. Williams.	Sciurus ferrugineus.
	„ hyperithrus.
	„ bicolor.
	Treron phœnicoptera.
	Turtur humilis.
	„ suratensis.
	Columba intermedia.
	Palæornis cyanocephalus.
	„ Alexandri.
	„ torquatus.
	Gecinus (Picus) occipitalis.
	„ „ flavinucha.
	„ „ dimidiatus.
	Liga „ intermedia
	Chrysocolaptes sultaneus.
	Halcyon leucocephalus.
	Alcedo Bengalensis.
	Hemilophus (Picus) pulverulentus
	Coracias affinis.
	Bucco lineatus.

Dr. C. Williams,	Oriolus melanocephalus.
	Psilorhinus magnirostris.
	Edolius grandis.
	Garrulax pectoralis.
	„ leucolophus.
	Harpactes Hodgsonii.
	Phœnicophaus longicaudatus.
	Copsychus Mindanensis.
	Pericrocotus roseus.
	„ peregrinus.
	Temenuchus Burmanicus.
	Pycnonotus hœmorrhous.
	Passer flaveolus.
	Motacilla Luzoniensis.
	Kittacincla macrourus.
	Merops viridis.
	Lanius hypoleucos.
	Pratincola Indica.
	Buceros cavatus.
	„ albirostris.
	Corvus splendens.
	Dendrocitta rufa.
	Graucalus Macei.
	Phalacrocorax pygmæus.
	Pomatorhinus leucogaster.
	Falco fuscatus.
	Phyllornis aurifrons.
	Gallinula panifrons.
	Hemicercus canente.
F. Wilson, Esq.	Hemitragus Jemlaicus.
	Ovis Nahura.

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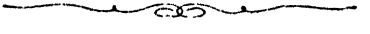
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APPENDIX.

APPENDIX A.

Authors.	*Papers Communicated.*	*Author's date.*	*When received.*	*Pt. & No. of the Jrnl. and Proc.*
R. Adams, Esq. ...	Notes on the "Madar" plant. ...			
Capt. H. H. G. Austen. ...	Notes on the Pangong Lake, district of Ladak. ...	.....	14th June, 1866.	
	Vocabulary of the English, Balti and Kashmeri. ...	14th July, 1866.	28th July, 1866.	
V. Ball, Esq. ..	Notes on the principal Jungle-fruits used as articles of food by the natives of the districts of Maunbhoom and Hazareebag. ..	3rd Nov 1866.	3rd Nov. 1866.	
J. Beames, Esq. ...	The Arabic Elements in official Hindustani, No. 2. ...	.....	19th July, 1866.	
	Derivation of "Om and Amen." ...	.....	26th Augt. 1866.	Proc. Sept. p. 193.
	Outlines of Indian Philology. ...	.....	6th Oct. 1866.	
W. T. Blanford, Esq. ...	Contributions to Indian Malacology, No. VI. ...	.....	3rd Feb. 1866.	Pt. II. No. I. 1866.
	Ditto ditto, No. VII. ...	.....	5th Sept. 1866.	Pt. II. No. II. 1866.
	Ditto ditto, No. VIII. ...	.....	5th Dec. 1866.	
H. Blochmann, Esq. ...	Derivation of "Om and Amen," ...	.....	3rd Sept. 1866.	
Capt. H. H. Brown, ...	Notes on the Pegu Pagoda. ...	.....	4th Dec. 1866.	Proc. for December.
The Hon. G. Campbell, ...	Ethnology of India. ...	.....	4th June, 1866.	Pt. II. Sp. No. 1866, Ethnology.
C. J. Campbell, Esq. ...	Notes on the History and Topography of the ancient cities of Delhi.	27th July, 1866.	11th Augt. 1866.	

P. Carnegy, Esq. ...	Notes and Queries on the past history of different clans and races of Oude. ...	.....	10th Augt. 1866.	
Maj.-Gen. A. Cunningham,	Archæological Survey Report, 1864-65, ...	.....	13th Feb. 1866	
The Rev. F. Batsch, ...	Notes on the Oraon language, ...	.....	9th July, 1866.	Pt II. Sp. No. 1866. Ethnology.
Lieut.-Col. E. T. Dalton....	The Kols of Chota-Nagpore, ...	.....	27th July, 1866.	Pt. II. Sp. No. 1866. Ethnology.
F. Fedden, Esq. ...	Notes on the Fireflies of Burma. ...	.....	1st Jan. 1866.	Proc. for January.
Major B. Ford, ...	Report on the Barren Island, ...	18th May, 1866	6th July, 1866.	
Govt. of India, (Home), ..	10 Communications describing storms in various parts of the world and which were collected for the use of the late Mr. Piddington. ...	.....	22nd Dec. 1866.	
The Govt. of Bengal, ...	Several communications on the Earthquake of 23rd May. 1866. ...			
Babu Gopee Nauth Sen,...	Abstract of Hourly Meteorological Observations made at the Surveyor General's Office in September, 1865. ...	.....	19th Jan. 1866.	} Pt II. No. II. 1866.
	Ditto October and November, 1865.	.....	21st Feb. 1866.	
	Ditto December, 1865. ...	.....	25th Mar. 1866.	Pt. II. No. II. 1866.
	Ditto January and February, 1866	.....	25th May, 1866.	
	Ditto March, April and May, 1866.	.....	16th Augt. 1866.	
	Ditto June and July, 1866. ...	.....	15th Oct. 1866.	
	Ditto August, 1866. ...	.....	6th Dec. 1866.	

Authors.	*Papers Communicated.*	*Author's date.*	*When received.*	*Pt. & No. of the Jrnl.*
F. S. Growse, Esq.	Some objections to the modern style of official Hindustani.	.....	9th July, 1866.	Pt. I. No. III. 1866.
E. B. Harris, Esq.	A list of things discovered in excavations in Sultangunge, up to November, 1865.	.....	17th Feb. 1866.	
W. J. Herschell, Esq.	Description of the Chandrarekha Gurh near Sheshtani, Pergunnah Naye Gong, Zilla Midnapore.	.....	2nd April, 1866.	Pt. I. No. III. 1866.
C. Horne, Esq.	Notes on Anjimmi village.	9th Feb. 1866.	15th Feb. 1866.	
	Notes on Jusrow village and its ruins.	24th Mar. 1866.	27th Mar. 1866.	
	Notes on Jumma Musjid, Etwah.	.....	27th April, 1866.	
	Notes on Mynpuri village.			
	Village Notes (Namaira).			
	Notes on Atranjikhera or Pi-lo-shanna of Genl Cunningham.	14th Dec. 1865.	5th Jan. 1866.	Pt. I. No. III. 1866.
	Rough Notes on Ancient Hindu Temples at Malaon.	15th Dec. 1865.	2nd Jan. 1866.	
W. H. Johnson, Esq.	Report of the survey operations of the Kashmir series beyond, and to the north of Changchemno valley.	22nd April, 1866.	16th July, 1866.	
W. Masters, Esq.	A few notes on the Earthquakes of December 1865, in Bengal.	.....	17th Jan. 1866.	
A. P. Minas, Esq.	A short sketch of the tribes of Bhuttriana and Hurriana.	.....	23rd July, 1866.	

Capt. A. B. Melville, ..	Notes on the Buddhist Temple at Dob Khand, Gwalior. ...	25th Jan. 1866.	31st Jan. 1866.	Pt. I. No. III. 1866.
Major F. D. Newall, R. A	Two notes on visits to Cashmere. ...	.....	27th July, 1866.	
Babu Rajendra Lala Mittra.	Notes on the Gupta inscriptions from Aphsar and Behar. ...	.....	4th Nov. 1866.	
Dr. A. Sprenger, ...	Remarks on Barbier de Maynard's edition of Ibn Khordhadhe and on the Land Tax of the Empire of the Khaliffs. ...	23rd Feb. 1866.	24th Feb. 1866.	Pt. I. No. II. 1866.
R. Taylor, Esq. ...	Notes on the Physical changes of the Koen Pagoda near Madras. ...	5th Jan. 1866.	18th Jan. 1866.	Proc. Feb. p. 51.
E. Thomas, Esq. ...	The Initial Coinage of Bengal. ...	.....	3rd Mar. 1866.	
Lieut.-Col. R. C. Tytler,	Description of Drymoica Verreauxii.	.....	3rd June 1866.	
Dr. A. M. Verchere, ...	Kashmir, the Western Himalaya and the Afghan Mountains. ...	.....	5th Jan. 1866.	Pt. II. No. II. 1866.
Lieut.-Col. J. T. Walker,	Abstract of the observations of the Astronomical points determined by the Bros. Schlagintweit. ...	.....	11th Jan. 1866.	Pt. II. No. I. 1866.
	Russian Geographical operations in Asia. ...	.....	8th Mar. 1866.	Pt. II. No. II. 1866.
D. Waldie, Esq. ...	Experimental investigations connected with the water supply to Calcutta. ...	.....	31st Augt. 1866.	
	Supplement to ditto. ...	.....	28th Sept. 1866.	
G. E. Ward, Esq. ...	Notes on the Antiquities of the Dhoon. ...	7th Feb.	23rd Mar. 1866.	Proc. April, p. 97.

APPENDIX B.

Donors. *Donations transferred to the Indian Museum.*

Dr. John Anderson.—A young specimen of *Gavialis Gangeticus*; a specimen of *Crocodilus porosus*; 2 *Halcyon Smyrnensis* (white-breasted king-fisher); one *Athene Brama* (spotted owl); *Pteropus Edwardsii* (flying fox); one *Caprimulgus Asiaticus* (Indian goat-sucker); one *Budytes viridis* (wagtail); 2 *Anthus rufulus* (slender lark); 3 *Gyps Bengalensis* (vulture); one *Dicrurus macrocercus* (king crow).

Macacus radiatus; Oriolus melanocephalus; Pratincola caprata; Accipiter nisus; Euplocomus nycthemerus; Eos ornata; Loxius domicella; Sturnus contra; Dicrurus carulescens; Dicrurus macrocercus; Dicrurus longicaudatus; Budytes viridis; Malacocercus Bengalensis; Cuculus varius; Fringilla Canaria; Melopsittacus undulatus; Edolius grandis; Eclectus polychlorus; Pycnonotus jocosus; Pycnonotus atricapillus; Calliope Kamtschatkensis.

Vipera Russellii; a *Cobra*; a *Sus Andamanensis*; *Gyps Bengalensis*; *Oriolus melanocephalus*; *Pteropus Edwardsii*; one *Lutra Nair.*

Limulus rotundicauda; *Platanista Gangetica.*

W. S. Atkinson, Esq.—A specimen of fossil wood from the petrified forest of Cairo. A nest of *Nectarinia Nepalensis* and of a *Nectarinia*, sp.?

J. Avdall, Esq.—Specimens of Burmese Cándle and ear-ring.

Barrackpore Park Menagerie.—Specimen of *Struthio-camelus.*

H. F. Blanford, Esq.—Two *Tudora ferruginea*, Europe; *Melanopsis Esperi*, Transylvania; 2 *Melanopsis thermalis*, Europe; 2 *Melanopsis aciculuris*, Europe; 6 *Nanina lignlata*, Madras; 2 *Cyclostoma*

costulatum, Europe; *Cyclotus corrugatus*, Jamaica; one *Rhiostoma Housei*, Siam; one *Philopotamis decussata*, Ceylon; 6 *Pomatias maculatum*, Europe; 2 *Clypeaster*, Pondicherry.

W. T. Blanford, Esq.—*Gallus Sonneratii; Gal' perdix lunulosa; Fuligula rufiana; Antilope quadricornis;* 2 heads and fore and hind legs of *Bos Gaurus*.

Col. D. Brown.—Skins of *Psitta cucullata* and *Scolopax rusticola*.

J. A. Cockburn, Esq.—*Python molurus*.

Major B. Ford.—Three skulls and an incomplete skeleton of a child; a *Hydrosaurus salvator* in spirit; a few edible swallow's nests; an incomplete skeleton of *Sus Andamanensis;* an Andaman bow and a fishing basket; and specimens illustrating the Conchology of the Andaman Islands.

One Gecko, two Lizards and one Snake in spirit from the Andamans.

A collection of snakes, lizards and crustacea from the Andaman Islands.

A box of mineral and vegetable specimens from Barren Island.

Specimens of *Crustacea*, *Echinodermata*, centipedes and snakes from the Andaman Islands.

The Government of Bengal.—A box containing a specimen of sand poured forth near Thanna Roajan in Chittagong on the occasion of the Earthquake of December, 1865.

The Government, N. W. P.—A specimen of the "Madar" bark fibre, and specimens of thread, cord and cloth made from the same fibre, with specimens of cloth made from the cotton, and cotton and fibre of the Madar."

A. Grote, Esq.—Two specimens of *Enhydrina Bengalensis;* one of *Lepus ruficaudatus;* one new born foal of *Equus caballus;* three eggs of *Colotes versicolor;* four specimens of live *Geckos*, and one of a Python. Skeleton of an Alderney bull.

P. Hartnell, Esq.—A specimen of *Xiphias Gladius* (sword fish) from the Bay of Bengal.

S. Jennings, Esq.—A specimen of a flying lizard, *Draco Dussumieri*. A specimen of *Aprosmictus scapulatus* (king parrot) of Australia.

W. H. Johnson, Esq.—Old brick tea from ruins near Ilchi; also from Karakas, Karakorum pass, Kiam hot springs in Changchemno, and Doar in Khotan. Grasses from Khotan.

Five brass images from near the Changchenmo, one pair of boots from Khotan, one cap, one box, one carpet, one praying wheel.

M. Lloyd, Esq.—A packet of specimens of supposed indigenous tea (*Eurya Chinensis*) from Tounghoo.

Capt. T. H. Lewin.—Specimens of clothes worn by the Hill tribes of Chittagong.

Major B. Macbean.—A specimen of an up-country bull.

Mrs. H. Mackenzie.—An abnormal skull of a dog from N. China.

Dr. C. MacClelland.—A case of upper cretaceous fossils from Cherra-Punji.

Moonshee Mahomed Hossein.—A brick from the temple at Buddha Gya, measuring 15·6 × 10·5 × 3·2 inches.

J. Obbard, Esq.—3 Marine boring Annelids.

Lt.-Col. A. P. Phayre.—Three Burmese skulls, and one from the Shan states.

Kumar Pramatha Natha Roy.—*Carcharius Milberti* (Ganges).

Babu Protap Chunder Ghoshe.—*Onychocephalus acutus.*

Babu Rajendra Mullick.—Specimens of *Pocphagus Grunniens* (yâk); *Nasua rufa* (Coaiti mundi); *Ceriornis Satyra* (Tragopan); *Anser Indicus* (bare headed goose); *Psittacus erythacus* (grey African parrot);

2 *Bos Grunniens*; one *Dama vulgaris* (fallow Deer) one *Dromaius Novæ Hollandiæ*; one *Grus Antigone* and one *Ara ararauna.*

Babu Rajendra Lala Mittra.—One *Felis Pardus, and* one *Oriolus melanocephalus.*

The Rev. A. B. Spry.—A box of bird skins from Malacca.

W. C. Taylor, Esq.—A large collection of insects chiefly from Darjiling.

D. Waldie, Esq.—Specimens of pseudomorphs of Peroxide of Iron after Pyrites.

J. Westmacott, Esq.—Specimens of canes, rattans and a skull of a deer from Jessore.

The following were purchased :—

A skeleton of a Bhootea ; *Canis familiaris*, *Felis Bengalensis*. *Ciconia alba*, *Felis chaus*, *Eclectus polychloros*. *Graculus carbo*, *Eclectus grandis*. *Loriculus pumilus*. *Grus Antigone*, *Lophophorus Impeyanus*. *Myeteria Australis*, *Casuarius galeatus*. *Paradoxurus Musanga*. *Corvus splendens*. *Euplocomus albo-cristatus*. A brass tea-pot from Khotan.

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR JANUARY, 1866.

The Annual General Meeting of the Asiatic Society was held on Wednesday the 17th January, 1866.

A. Grote, Esq President, in the chair.

The Secretary read the Council's Report for 1865 :—

ANNUAL REPORT.

The Council have much satisfaction in being able to report that, during the past year, the activity of the Society has been equal to that of any former period. There has not indeed been any increase in the number of its members on that of the previous year; on the contrary, there has been a slight diminution on the total number, and a considerable diminution of paying members. But in every department, there has been increased activity; and many alterations and reforms have been introduced, tending, as the Council believe, very materially to the advantage of the Society.

Of the ordinary members of the Society, 25 have withdrawn during the past year, and 11 are deceased, making a total loss of 36 members. The number of elections has been 32 only, so that there is a diminution of four on the member list of the previous year, 376 against 380.

The following tabular statement of the number of ordinary members of the Society for each year of the last decade shews, that while the total number for the past year is only 4 less than that for 1864, the great increase of absentee members has caused a diminution of 21 on the list of subscribing members. The total number of the latter is now 267, of which 121 are resident. The Council trust that the election of new members during the ensuing year may compensate for the unusual number lost by death and withdrawal during that just ended.

	Paying.	*Absent.*	*Total.*
1856, ...	131	36	167
1857, ...	109	38	147
1858, ...	193	40	233
1859, ...	135	45	180
1860, ...	195	47	242
1861, ...	225	55	281
1862, ...	229	82	311
1863, ...	276	79	355
1864, ...	288	92	380
1865, ...	267	109	376

Among the honorary members, the Council regret to record the death of Dr. Hugh Falconer, long a member of the Society, and one whose name is indissolubly associated with its labours. The closing volume of its Researches, published in 1836, contains not less than 5 papers from Dr. Falconer, then in the midst of his Sewalik discoveries; and 3 other papers on the fossils from that interesting range of hills were published by him about the same time in vols. 5 and 6 of Prinsep's Journal. In 1834, he had previously drawn attention, in the same Journal, to the aptitude of the Himalayan range for the culture of Tea. A letter from him, when at Saharunpore, seems to have conveyed to Calcutta the first intelligence of the great cataclysm of the Indus in 1841, the cause of which had the greater interest for him, in that he had then recently returned from an expedition to Cashmere and the great glaciers of the Mustagh range. In the following year, Dr. Falconer went to England, where, besides contributing many papers to the Royal, Asiatic, Geological and Linnæan Societies, he commenced with Col. Cautley the 'Fauna Antiqua Sivalensis,' the text of which has unfortunately been left incomplete. On his return to India in 1848, his residence in Calcutta enabled him for the first time to be an office-bearer of the Society, and before finally leaving India in 1855, he undertook the arrangement, in their Museum, of the tertiary fossils with which his earlier researches had made him so familiar. During the 10 years which followed on his return to England, he contributed to the Geological Society an important paper 'on the species of Mastodon and Elephant occurring in the fossil state in England', the 2nd part of which, though read so far back as 1857, has been published in that

Society's Journal since his death. Another paper on the pigmy Elephant of Malta, read before the British Association at Cambridge, excited great interest. His later studies were devoted to that subject which is now so prominently occupying the thoughts of men of science, the antiquity of man; and his last written communication was in connexion with this, being a report to the Government which he drew up with Prof. Busk on some recently discovered cave deposits in Gibraltar. Dr. Falconer was, at the time of his death, a Vice-President of the Royal Society, and Foreign Secretary of the Geological Society. A resolution expressive of its deep regret on the announcement of the loss which this event occasioned, was recorded in this Society's proceedings for April last, and a subscription has been raised among its members for a bust, which it is hoped will be in its place in the meeting-room before the next anniversary meeting.

Mr. Edward Blyth, who, as an Associate of the Society and Curator of the society's museum, during a period of 21 years, brought together and described the greater part of the Zoological collections in the museum, and whose numerous writings in the Society's Journal form an important part of the literature of Indian Zoology, has been elected to the vacancy on the roll of honorary members, caused by the death of Dr. Falconer.

The Rev. C. H. Dall has been elected during the past year as an associate member of the Society.

Among the ordinary members, the Council have to regret the loss by death of Mr. E. O. Riley, whose paper on the Lake of the clear water in Burmah was published in the XXXIII. Vol. of the Society's Journal: also Brig.-Genl. Showers, the Hon'ble E. P. Levinge, Lieut. J. H. Urquhart, R. E., Lieut.-Col. P. Stewart, R. E., Bábu Moodoosudun Doss, R. T. Martin, Esq., W. Forbes Goss, Esq., Rájá Chunder Sekur Roy, and Moulavi Waheeudeen Nubee Khán Bahádur.

Museum.

In no department has greater progress been made during the past year than in the Society's museum. In the month of June, Dr. J. Anderson was appointed Curator of the Imperial Museum, and permitted by Government to assume charge of the Society's collections. Dr. Anderson immediately undertook the re-arrangement and resto-

ration of the specimens, which, since the departure of Mr. Blyth, had necessarily only received such care as was absolutely requisite to ensure their simple preservation. The museum was at the same time closed to the public for repairs, and for re-painting and whitewashing the interior. With a view to provide more light, especially in the lower rooms, the interior of the cases, the stands of the specimens, &c. were painted white, and the cases and larger specimens at the same time so re-arranged, as to obstruct as little as possible the side lights of the lower rooms. The smaller osteological specimens, which had previously been exposed to dust and injury, were arranged in cases, and the larger re-arranged with less crowding than before, and protected by a light railing. The stuffed animals were re-arranged and protected in a similar manner, in the room formerly occupied by the reptiles and fishes; and the valuable antiquities, which had previously been exposed to the deteriorating action of the weather in the museum compound, and many of which had been lost to sight amid the vegetation, were brought into the museum, thoroughly cleaned, and arranged along the walls of the museum, so as to display them in a manner previously unattempted. In order to provide more space for these and the Zoological specimens, the collections of rock specimens and minerals, which were of comparatively little interest to the public, and the importance of which has been in a great measure superseded by the formation of the Geological Museum in Hastings Street, were removed from their cases, carefully labelled and packed in cases, to be kept in the museum godowns, until the provision of more space may permit of their being arranged in drawers and thus rendered available to those who may wish to refer to them. Notwithstanding these measures, the space available for the Zoological collections has been found insufficient, and the specimens remain inconveniently crowded, but the Council have addressed Government with a view to the temporary provision of space elsewhere, until such time as the new museum building may be made ready; and they trust that it may shortly be in their power so to provide for this part of their collections, as to place them beyond risk of further injury. In addition to effecting these important improvements, Dr. Anderson has addressed himself to enlarge the Ethnological collection, and a circular, drawn up by him, has been issued in the name of the Society, soliciting the assistance of the different Governments of India

and of members of the Society, in extending the Society's collection of human crania. The Government of Bombay has replied favorably to this application, and the Society has already received some contributions from private donors, and promises of further aid which augur favourably for the success of the undertaking. Dr. Anderson has also commenced the formation of a collection of casts of the head and bust of the various aboriginal races of India, and such foreign races as are to be found in Calcutta, or can be procured elsewhere. Similar casts of some of the monkey tribes have also been taken, and will be added to, as opportunity may serve. The reptilian collection has been examined, compared, and catalogued by Mr. W. Theobald, Jr., and the catalogue is now in the press preparing for publication. Some specimens have also been presented to the collection by Mr. Theobald.

The collection of Madrepores which, like the Invertebrate collections in general, (with the single exception of the shells arranged and catalogued by Mr. Theobald, in 1860) have hitherto been in a sadly neglected state, unnamed and unarranged, and so small in number as most inadequately to represent this important fauna, even for our own coasts, have been cleansed, and will shortly be arranged, together with a fine series from the Arracan coast, presented by Mr. Theobald, in a case or cases specially provided for them. Mr. Atkinson has presented a fine series of Lepidopterous insects, but these again cannot be exhibited, until the insect cases, long since ordered, shall arrive from home, and be placed in the museum. It has hitherto been a reproach to the museum, that but one, and that the smallest, of the five sub-kingdoms of animated nature, has been at all adequately represented. The collection of Mollusca, which stands next in order, is equalled if not surpassed, by more than one private collection in Calcutta; of the greater part of the Annulosa, nothing worthy of being called a collection exists, and the same must be said of the Echinodermata and Protozoa. Of the sub-kingdom Cœlenterata, the corals, already mentioned, are the only representatives. The Council earnestly desire that attention may be given to providing some more worthy representation of these neglected departments of Indian Zoology, and invite the donations of members with a view to this end. They have hitherto abstained from making any such appeal, being aware that the limited means of the Society did not admit of their providing for the preservation

and arrangement of a greatly increased Zoological collection. They believe, however, that they may now venture to do so, with confidence that under Dr. Anderson's direction, the Invertebrate collections, henceforth to be added to the Museum, will be fully cared for, and their importance duly appreciated.

Besides the donations already mentioned, the Society have received many others of considerable importance. A highly interesting and perfect specimen of a Meteorite which fell in the neighbourhood of Jessore in May, 1865, has been presented by Baboo Gour Doss Bysack; and a stone of large dimensions, and exhibiting some peculiar external characters, which fell near Shergotty in August, 1865, has been most liberally presented by His Honor the Lieutenant-Governor. In connection with these, the Council feel it their duty to express their obligation to Mr. H. H. Locke, to whose careful superintendence the Society are indebted for a series of models of these stones, produced with a fidelity, which they believe will be highly appreciated by the European Museums to which they have been or will be presented. They cannot too highly appreciate the advantages offered by the School of Art, under Mr. Locke's direction; both in enabling the Society to procure accurate and artistic models of meteorites, and ethnological and other casts, and also in furnishing illustrations for their publications, of an excellence and accuracy of execution, hitherto but rarely obtainable in Calcutta. Some specimens of meteorites, some of which are new to the Museum, have been received from Professor Shepard. From Mr. Blyth the Society has received a fine series of skulls, with a few other specimens; from Dr. Williams, late of Mandelay, and from Dr. Jerdon, collections of birds' skins; and from Baboo Rajendra Mullick, a large number of birds and mammals. Dr. Stoliczka has presented some specimens of birds, and a Lagomys from the snow region of the N. W. Himalaya, which had long been a desideratum in the Museum. To Major Ford of Port Blair, the Society are indebted for 3 Andaman skulls, and a fine collection of shells; and to Lieut. Beavan, Col. Tytler and many other donors, for Zoological specimens of various kinds which have been enumerated in the Society's proceedings.

From Col. Fytche and Major Ford, the Society have received specimens of the weapons and manufactures of the Andaman Islanders;

from Mr. Westfield, Genl. Tombs, Captain Godwin Austen, and Lieut. Wallace, specimens of arms, implements, and other works of the Booteas and Thibetans; and from Col. Saxton, the implements used in the Meriah sacrifices in Goomsoor. A fine statue in beaten brass, of the Dhurm Rajah of Bhotan, presented by Captain Hidayut Ali, now forms a prominent object on the staircase of the museum.

In quitting the subject of the Museum, the Council express a hope that the considerable expenditure which has been incurred in its restoration and re-arrangement, will be considered amply justified by the great improvement which it now exhibits. They are, however, fully impressed with the inability of the Society to continue to meet the heavy monthly outlay which the maintenance of the museum demands, and they have the whole subject now under consideration, with a view to providing for the future support of the museum, without trenching so seriously, as during the last few months, on the somewhat limited means of the Society.

Finance.

The Council have the satisfaction to report that the measures, adopted during the past year to realize the arrears due to the Society's funds on account of entrance fees and subscriptions, have been more successful than in previous years. It having, however, been ascertained that many members had never received the notices which from time to time had been sent informing them of their liabilities, registered letters were issued in December last, to all who were more than one year in arrears. Satisfactory answers have been already received to some of these calls—and it is hoped that ere long the remaining arrears, amounting to Rs. 7,487, will be all realized.*

The outlay of the Society's funds has been larger than usual, and will necessitate the sale of Government securities to the extent of about 1,500 Rs. which it is proposed to replace on realization of the arrears above noticed.

* Of this amount Rs. 3,482 are for arrears of subscription of more than one year's standing.

Outstanding for sale of Journal, ... Rs.	107
Ditto ditto Subscriptions, ...	568
Ditto ditto sale of Library books, ...	537
Ditto ditto Admission Fees, ...	448

The principal items of extra expenditure have been the following:

In repairs to house, ... Rs. 1,764
Refitting and re-arranging the Museum, ... 3,360
In printing and editing the Journal,* 1,006

The sums realized from members during the past year amount to Rs. 10,373. This is in excess of the average of the past ten years by Rs 2,700. Of the above total, Rs. 928 were for admission fees, and Rs. 9,445 for quarterly subscriptions.

Comparing the actuals of this year with the estimate, the results are as follows:

INCOME.

	Estimate.	Actual.	Deficit.	Excess.
Admission fees, ...	1,600	928	672	...
Subscriptions, ...	8,500	9,445	...	945
Journal, ...	600	758	...	158
Library, ...	300	193	107	...
Museum, ...	1,500	6,037†	...	4,537
Secretary's Office, ...	20	34	...	14
Coin fund, ...	30	236	...	206
			779	5,860
		Excess,	...	5,081

EXPENDITURE.

	Estimate.	Actual.	Saving.	Excess.
Journal, ...	3,500	3,272	228	...
Library, ...	2,500	2,500	...	...
Museum, ...	1,500	6,468†	...	4,968
Secretary's Office, ...	2,350	2,349	1	...
Building, ...	1,800	2,340	...	540
Coin fund, ...	250	386	...	136
Miscellaneous, ...	400	265	135	...
			364	5,604
		Expenditure excess,	...	5,280
		Income ditto,	...	5,081
		Difference,	...	159

* This shews the excess cost over the average of other years.

† The expenditure of the Museum was estimated at the beginning of the last year for three months only, in the expectation that it would be transferred to the Government.

The following statement shews the estimated income and expenditure for 1866.

INCOME.

Admission fees, ... Rs.	1,000	0	0
Subscriptions, ...	8,500	0	0
Journal, ...	600	0	0
Library, ...	200	0	0
Museum, ...	6,000	0	0
Secretary's Office, ...	20	0	0
Coin fund, ...	100	0	0
*Sale of Government Securities, ...	1,500	0	0
	17,920	0	0

EXPENDITURE.

Journal, ... Rs.	3,500	0	0
Proceedings, ...	900	0	0
Library, ...	2,000	0	0
Museum, ...	6,000	0	0
Secretary's Office, ...	2,350	0	0
Building, ...	2,500	0	0
Coin fund, ...	320	0	0
Miscellaneous, ...	350	0	0
	17,920	0	0

The accounts for the year have been prepared and submitted to the Auditors as usual, and will be laid before the Society as soon as finally passed by them.

OFFICERS.

The great increase in the Honorary work of the Society, which has been caused by the increase of its number of members during the past few years, by the increase in its publications, and various other work, has induced the Council, on the report of the Secretary, to increase the number of Honorary officers from two to four; so distributing the work, that each officer should undertake a special department and

* This will only be necessary, in the event of outstanding arrears not being realized as anticipated.

thus relieve the two Secretaries (frequently one only) from the excess of work imposed by the previous arrangement. Col. Gastrell kindly consented to officiate as Treasurer, and two special Secretaryships of Natural History and Philology, History, &c. were established and accepted respectively by Dr. J. Anderson and Bábu Rájendra Lála Mitra, Mr. Blanford retaining the general work of correspondence, and the transaction of the ordinary current business of the Society's proceedings. This measure was announced to the Society for confirmation in July last, since which it had been in force, and the Council believe greatly to the benefit of the Society.

Bábu Lál Gopál Dutt, the Librarian and Assistant Secretary, having applied for six months' leave, the Council have appointed Bábu Protáp Chunder Ghoshe to officiate for him during his absence. Though new to his duties, Bábu Protáp Chunder Ghoshe has applied himself with great zeal, and promises to become a most useful officer. The other officers of the Society remain as at the end of last year, and have continued to give entire satisfaction.

JOURNAL.

The change in the form of publication of the Journal announced in the last annual report, was effected at the commencement of the present year, and this, together with the re-arrangement of Honorary officers, has enabled the Society to clear off the large arrears of papers which had accumulated in their boxes; so that it is trusted that, in future, publication may keep pace with the receipt of communications, to the great satisfaction doubtless of authors and readers. It has been found quite practicable, and indeed easy, to classify the papers received, according to the system proposed; and the papers of different characters have the advantage of being edited by gentlemen having special acquaintance with the subject matter, without delay or inconvenience. The increased bulk of the publications has necessarily rendered the expenditure of the Society in this department somewhat heavier than in former years; whether the cost will remain the same or will diminish in subsequent years, must depend on the number of communications received; but the Society will doubtless consider that the cost of the Journal is one of the most legitimate items of expenditure, and will desire that the Journal may suffer no diminution in the quantity or value of the materials received.

Seven numbers of the Journal, viz. three of the Natural History and four of the Historical part, have been issued, and ten numbers of the Proceedings; an eighth number of the Journal, making the fourth of the Natural History part, is now nearly ready for issue, together with the number of the Proceedings for December.

Library.

During the past year, 350 volumes, periodicals, and pamphlets have been added to the Library, the greater part of which have been presentations. The heavy outlay which has been incurred in the repairs of the building and the restoration of the Museum, has not permitted the Society to expend any large sum on the Library. A series of works on Zoophytes have however been purchased, with a view to the determination and arrangement of this part of the Zoological collection, which Dr. Stoliczka has kindly offered to undertake. Considerable progress has been made in the preparation of a new and classified catalogue, long an urgent necessity; the former catalogue having become in a great measure obsolete, owing to the large additions made to the Library since it was prepared. The catalogue now preparing will be classified according to subjects, with a descriptive index arranged alphabetically, and it is proposed to publish an annual Supplement arranged in like manner.

Bibliotheca Indica.

Twenty-six numbers of the Bibliotheca Indica have been issued during the past year, including portions of twelve different works. One of these is Arabic, two are Persian, seven Sanskrit, and two translations from the Sanskrit.

In the new series, Major Lees has completed his edition of the *Wis-o-Ramin*, an ancient Persian poem of great merit; and Maulavis Abdul Hak and Ahmed Ali have brought out three fasciculi of the Ikbál-námeh Jahángirí, a biography of Jehángir, which, with the Tojuk-e Jehángirí, lately published at Alighar, will place at the disposal of the Oriental scholar the most authentic materials available for a correct history of the reign of that distinguished emperor. As a sequel to it, the Council have lately sent to press the *Alamgírnámeh* of Mohamed Kázim, and intend to follow it up by editions of the *Bádsháhnámeh* of

Abdul Hámid Lahourie and the *Tárikh e Bahádurshâhi*, to complete their series of the standard histories of the native histories of Delhi.

Of Sanskrit works in this series, the Council have to record the completion of the *Brihatsañhitá* of Varáha Mihira, an astronomical work of great value, edited by Dr. H. Kern; the *Nyáya Darsana* of Gotama with the commentary of Vátsáyana, edited by professor Jayanáráyana Tarkapanchánana; the *Nárada Pancharâtra*, edited by Rev. K. M. Banerjea; the *Sánkhyasâra* of Vijñána Bhikshu, edited by Dr. Fitz-Edward Hall; and the *Das'arupa* or Hindu Canons of Dramaturgy by Dhananajaya with the exposition of Dhanika, by the same editor. The late Dr. Ballantyne's translation of the Sánkhya Aphorisms of Kapila has also been completed by the publication of its concluding portion.

Of works in progress, Pandit Rámanáráyana Vidyâratna has issued seven fasciculi of the *Srauta Sutra* of Áswaláyana, Bábu Rájendralála Mitra has brought out a fasciculus of the *Taittiríya, Árányaka*, and Pandita Maheschandra Nyayaratna, a fasciculus of the *Mimánsá Darsana* with the commentary of Sávara Swâmi.

In the old series, Bábu Pramadâdâsa Mitra has brought out two fasciculi of his continuation of Dr. Ballantyne's translation of the Sáhitya Darpana, and Major Lees and Bábu Rájendralála Mitra are engaged in their editions of the Biographical Dictionary of Ibn Hajar and the Taittiríya Brahmana of the Black Yajur Veda.

The following are lists of the different works published, or are in course of publication, in the old and the new series:—

Of the New Series.

1. The Iqbálnámah-i Jahángírí; of Motamad Khan, edited by Maulawis Abd Al-Haqq, and Ahmad Ali, Nos. 77, 78 and 79. Fasc. I, II and III.

2. Wis-O-Rámin, an ancient Persian poem by Fakr al-din, As'ad al-Astarabadi, al-Fakhri, al Gurgáni, edited by Capt. W. N. Lees, L. L. D. and Munshi Ahmad Ali, No. 76. Fasc. V.

3. The Mímánsá Darsana, with the commentary of Savara Swámin, edited by Pandita Mahésa Chandra Nyáyaratna. No. 85, Fasc. II.

4. Sánkhya-Sára, a treatise on Sankhya Philosophy, by Vijñána Bhikshu, edited by Fitz-Edward Hall, D. C. L. Oxon, No. 83.

5. The Das'a-Rupa, or Hindu Canons of Dramaturgy, by Dhanan-

jaya; with the exposition of Dhanika. The Avaloka edited by Fitz. Edward Hall, D. C. L. No. 82, Fasc. III.

6. The Sánkhya Aphorisms of Kapila with extracts from Vijñána Bhiksu's commentary, translated by J. R. Ballantyne, LL. D. No. 81, Fasc. II.

7. The Nárada Pancharátra, edited by Rev. K. M. Banerjea. No. 75, Fasc. IV.

8. The Taittiríya Aranyaka of the Black Yajur Veda, with the commentary of Sáyanáchárya, edited by Bábu Rajendralala Mitra, No. 74, Fasc. II.

9. The Nyáya Darsána of Gotama with the commentary of Vátsáyana, edited by Pandita Jayanáráyana Tarkapanchánana. No. 70, Fasc. III.

10. The Srauta Sutra of Ás'waláyana with the commentary of Gárgya Náráyana, edited by Ráma Náráyana Vidyáratna, Nos. 69, 71, 80, 84, and 86. Fasc. IV., V., VI., VII., and VIII.

11. The Brihatsañhitá of Varáha-Mihira, edited by Dr. H. Kern, Nos. 68, 72, and 73. Fasc. V., VI., and VII.

The Muntakhab Al-Twáríkh of Abd Al-Qádir Bin i Malúkshah, edited by Capt. W. N. Lees, L. L. D. and Maulawí Kabir Aldin Ahmad and Munshi Ahmad Ali. Fasc. V.

Of the Old Series.

1. A Biographical Dictionary of persons who knew Mohammad, by Ibn i Hájar, edited in Arabic by Maulawies Abd-al Haqq and Gholám Qádir and Capt. W. N. Lees, Nos. 209, 211, and 214. Fasc. IV., V., and VI.

2. The Sáhitya-Durpana or Mirror of Composition, a treatise on literary criticism; by Vis'wanátha Kavirája, translated into English by Babu Pramáladásá Mitra and the late James R. Ballantyne, L.L.D., Nos. 212 and 213. Fasc. I. and II.

3. The Taittiríya Bráhmana of the Black Yajur Veda, with the commentary of Sáyanáchárya, edited by Babu Rajendralála Mitra. No. 210, Fasc. XX.

Coin Cabinet.

The only contribution of any moment received for the Numismatic Cabinet is a collection of miscellaneous coins from Capt. Stubbs, including several copper Bactrians, a few silver Greeks and Pathans, and a

gold *hún*. But advantage has been taken of an order of the Government of India to melt down all native coins with a view to withdraw them from circulation, and a large number of Pathan, Moghol, and Náráyani coins have been purchased from the Mint at the price of bullion. A good set of Assam silver coins and some dated Bengal Pathans have also been secured for the Society by exchange of duplicates.

The report having been read, it was moved by the President and voted unanimously, that the report just read be approved.

The meeting then proceeded to elect the Council and Officers for the ensuing year.

It was proposed by the President and agreed to, that Dr. S. B. Partridge and Mr. H. Leonard be appointed Scrutineers of the ballot.

The ballot having been taken, the President announced, on the report of the Scrutineers, that the following gentlemen had been elected to serve on the Council for the ensuing year.

COUNCIL.

E. C. Bayley, Esq. *President.*
Dr. S. B. Partridge.
Bábu Jádavakrishna Singh. } *Vice Presidents.*
W. L. Heeley, Esq.
A. Grote, Esq.
Major W. N. Lees.
W. S. Atkinson, Esq.
Dr. J. Fayrer.
Dr. T. Anderson.
Dr. D. Boyes Smith.
W. Stokes, Esq.
Lieut.-Col. J. E. Gastrell, *Treasurer.*
H. F. Blanford, Esq., *General Secretary.*
Bábu Rájendralála Mitra, *Philological Secretary.*
Dr. J. Anderson, *Natural History Secretary.*

The President then addressed the meeting as follows :—

"I had proposed, before making over the Chair to my successor on this occasion, to read some remarks to the Meeting on the Proceedings of our Society during the past year, but the leisure for preparing them

has failed me, and my address, which would I fear under any circumstances have been a very imperfect one, is fortunately the less necessary, in consequence of the fullness of the Council's report which has just been read to you.

"There is cause, I think for congratulating the Society on the progress of its labours described in that report, and on the success which has marked its efforts for extending the influence of its Journal, and for improving the condition of the Museum. For the change in the form of the Journal we are indebted to our able and assiduous Secretary, Mr. Blanford; it was at his suggestion that the Council adopted the present double publication, a form which at once adapts the Journal for wider circulation, and leaves our members free to call only for that Part of it in which they take an interest. For the improvements so conspicuous in the Museum, the Society has mainly to thank the Curator of the new Indian Museum, Dr. J. Anderson, who by permission of Government, is in charge of the Society's collections. The Council have done all in their power to give Dr. Anderson the means of making these improvements, and they trust with the assistance of Government to enable him to push them further, pending the construction of the new building, to which the collections are eventually to be transferred.

"The Philological Committee has, perhaps, on the whole, been more active during the year than the other Committees of the Council. The loss of our late able Secretary, Mr. Cowell, has, however, been much felt by that Committee as well as by the Council. Now that Mr. Cowell has finally determined on not rejoining his Indian appointment, I take this opportunity of laying before the Meeting the sense entertained by the Council of the great services rendered to the Society by that eminent scholar during his incumbency. His qualifications are likely to be more especially missed shortly, if, as proposed by the Philological Committee, the Society carry out the undertaking of publishing a revised edition of the Ayin-i-Akbari.

"The report has noticed the progress made in the publication of the series of Persian historians. I see that exception has been taken by an oriental scholar at home to the omission, by the editors of the works published, of the general histories with which the historians always commence. I doubt whether such objections will be shared

by orientalists generally. It would have added considerably to the costliness of the publication, had the MSS. been published in full, and the continuity of the series is better preserved by omitting an unnecessary repetition.

"I am glad to find, in the report, a recognition justly due to Mr. Locke, of the services which he and his School of Art have lately rendered to the Society. I may point to the casts now on the table in evidence of the value of those services in one branch of art only. There is promise, I am glad to say, of further assistance from him in other branches. I cannot conclude these brief remarks without expressing the same acknowledgments of the Council and of myself personally to Mr. Blanford, Dr. J. Anderson and Bábu Rájendralala Mitra for the zeal and ability with which they have discharged their Secretariat duties during the year, and to Lieut.-Col. Gastrell for the earnestness with which he has taken up the charge of the Society's finances since his appointment as Treasurer."

The meeting then resolved itself into an Ordinary Monthly Meeting.

The minuates of the previous meeting were read and confirmed.

The following presentations were announced :—

1. From His Highness Ráma Varmá, the First Prince of Triván-drum, a copy of "a letter on the utility of the study of the Sanskrit Language."

2. From Major J. G. Gowan, a copy of "Iconologia or Moral Emblems," by C. Ripa.

3. From W. S. Atkinson, Esq., a specimen of fossil wood from the petrified Forest of Cairo.

4. From Bábu Rám Doss Sen, a copy of an Address on the Language and Literature of Asia, by F. Sedden, Esq.

5. From Major B. Ford, Port Blair, three skulls, and an incomplete skeleton of a child; a *Hydrosaurus salvator* in spirit; a few edible swallows' nests, an incomplete skeleton of *Sus Andamanensis;* an Andaman bow and a fishing basket; and specimens illustrating the Conchology of Andamanese Islands.

The following letter accompanied these donations :—

"I have taken advantage of the opportunity afforded me by the kind offer of Dr. David B. Smith on his present visit to the Settlement,

to forward, for the acceptance of the Asiatic Society, a selection illustrative of the conchology of the Andaman Islands.

"I am uncertain as to whether I forward anything not already in the possession of the Asiatic Society. I may mention, however, that in making the selection, an effort has been made of sending as many varieties as possible. Dr. Smith has kindly undertaken to have those shells now sent, properly identified and classed, and to let me know of any wanting to make the selection a better one, which I will endeavour to do.

"I take this opportunity of sending by the kind care of Dr. Smith, three skulls which are known to be those of Andamanese. I have seen the circular lately put forth by the Society regarding craniological researches, and I shall be glad if these specimens now sent be found to afford any further knowledge or clue to the origin or distinctive characteristics of this new Island race. I have also entrusted to Dr. Smith's care, 2 skulls of the Sus Andamanensis, also a Black Saurian which I believe to be peculiar in its distribution to these Islands, and a few more objects that may be of interest.

"(Signed) B. Ford, *Major.*

Port Blair, 14th Dec., 1865." *Supdt., Port Blair.*

The special thanks of the Society to Major Ford were proposed by the President, and unanimously voted.

6. From the Rev. J. Long, the following books :—

Stubelii, A. Basilii, *fabri sorani* Thesavrvs Ervditionis Scholasticæ. *Lipsiæ*, 1717, folio.

Bocharti, S. Hierozoicon sive bipartitum opus de Animalibus S. Scripturæ. *Lugduni Batavorum*, 1692, fol.

Bocharti, S. Hierozoici sive bipartiti operis de Animalibus S. Scripturæ. *Lugduni Batavorum*, 1692, fol. pars posterior.

Vossii, Etymologicon Lingvæ Latinæ. *Lugduni*, 1664, fol.

Meninski, F. à. M. Linguarum orientalium Turcicæ, Arabicæ, Persicæ institutiones seu Grammatica Turcica. *Viennæ Austriæ*, 1680, Royal 4to.

Sharpe, A. G. Syntagma Dissertationum, *Oxonii*, 1767, 4to. Vol. II.

Iudicia è multis quædam virorvm reverendorvm, Nobilissimorvm ac Clarissimorum de laboribus Dn. P. Kirstenii, *Lipsiæ*, 1611, 4to.

Sacy, S. de, Mémoires sur diverses antiquités de la Perse. *Paris*, 1793, 4to.

Catalogo della Libreria Capponi. *Roma*, 1747, 4to.

Aryda, A. Institutiones Grammaticae Arabicae. *Viennae*, 1813, 4to.

Leigh, E. Critica Sacra: or observations on all the Radices, or Primitive Hebrew words of the Old Testament in alphabetical order. *London*, 1662, 4to.

Brigant, M. le, Observations fondamentales sur les Langues anciennes et modernes. *Paris*, 1787, 4to.

Bythneri, V. Lyra Prophetica Davidis Regis sive Analysis Critico-practica Psalmorum. *Londini*, 1653, 4to.

Schultens, A. Excursus primus ad caput Primum viæ veteris et regiæ Hebraïzandi. *Lugduni Batavorvm*, 1739, 8vo.

Masclef, F. Grammatica Hebraica, a punctis aliisque inventis massorethicis libera. *Parisiis*, 1743, 8vo.

Valckenaer, L. C. Ammonius de adfinium Vocabulorum differentia. *Lugduni Batavorum*, 1739, 8vo.

Paradigmata de quatuor Linguis orientalibus præcipvis, Arabica, Armena, Syra, Æthiopica. *Parisiis*, 1596, 8vo.

A Persian MS., Ferishta's "Guzerat."

On the proposition of the President, the special thanks of the meeting were voted to the Rev. J. Long.

7. From Col. Brown, Moulmein, skins of Psitta *Cucullata* and one *Scolopax Rusticola*.

8. From the Rev. J. Long, on part of J. Avdall, Esq. specimens of a Burmese Candle and Ear-ring.

Mr. D. Waldie remarked that these specimens appeared to be made of paraffine or some similar hydrocarbon. He had seen pieces of such material from Burmah, and the specimen on the table appeared to be of the same character. At the request of the President, Mr. Waldie undertook to examine the specimens and report thereon to the Society.

Letters were read—

1. From the Government of India, Home Department, forwarding ten communications describing storms in various parts of the world, and which had been forwarded for the use of the late Mr. Piddington.

From E. C. Bayley, Esq., *Secy. to the Govt. of India.*
To The Secretary, Asiatic Society.
Dated, Fort William, the 22nd Dec., 1865.

Home Dept.

Sir,—The Society are doubtless aware that the late Mr. Piddington published a Horn Book on the Law of Storms, and was engaged in collecting materials to enlarge his publication.

Since his death, several communications, ten in number, have been received in this office relating to various storms met with by the writers during their voyages. These communications are herewith forwarded to the Society, for any use they may think proper to make of them.

I have, &c.,
(Sd.) E. C. Bayley,
Secy. to the Govt. of India.

2. From F. Fedden, Esq., containing a few notes on Fire-flies.

"I see that in Part II., No. III. under "Notes and Queries" there has been a slight discussion on the fireflies, as to their emitting their light simultaneously in flashes. The fact is perfectly correct, as described in the quotations from "The Reader" and Cameron's works. I have often observed in parts of Burmah, near the streams in the Bassein district especially, the fireflies appear to hover about the bushes in myriads, and simultaneously emit their intermittent light irrespective of wind or extraneous causes apparently. At times, one end of the bush will commence to emit light, that will spread as a flash across to the other end, by which time the former will be in darkness: or one bush or portion may be illuminated, while another has just been extinguished."

"Have you ever observed the noise the white ants make when disturbed, perhaps at night when committing their ravages on some matting or straw? The noise they cause, always reminds me of the simultaneous flashing of the fireflies. The noise is produced by the white ant sharply driving forward his forceps into anything it may be on (the straw or the matting) and tearing a small fragment away. They do this intermittently and almost simultaneously, one portion perhaps commencing slightly before the mass (as a signal) and ceasing so much earlier."

(Sd.) F. Fedden.

Mr. R. D. Stewart observed that he had seen the same rhythmical flashing of the fire-flies at Tallygunge, and Mr. Long had also seen a similar phenomenon near Calcutta.

3. From Mr. W. Theobald, Jr. forwarding some notes on fire-flies.

Referring to a discussion which took place at a former meeting of the Society on the habit of fire-flies flashing simultaneously, Mr. Theobald described a case that he had witnessed in the Irawaddy delta, east of the Bassein river, in which large numbers of fire-flies around some bushes on the bank of the river, emitted their flash rhythmically and simultaneously.

The following gentlemen, duly proposed at the last meeting, were balloted for and elected ordinary members :—

A. Mackenzie, Esq., Lieut.-Col. D. Broune, Lieut. W. G. Hughes, Capt. F. C. Hamilton, Lieut. G. Seaton, A. Rattray, Esq., J. H. Crawford, Esq. C. S, Major A. Allen, Bábu Gánendra Mohun Tagore, Rev. J. Barton, J. Low, Esq, J. G. Hicks, Esq.

The following gentlemen were named for ballot as ordinary members at the next meeting.

N. Daly, Esq, Forest Dept., Myanoung, Burmah, proposed by Mr. Theobald and seconded by Mr. Blanford.

G. W. Hoyle, Esq, proposed by Mr. Blanford and seconded by Mr. Locke.

J. H. Johnson, Esq., G. T. S, proposed by Dr. Stoliczka and seconded by Mr. Blanford.

The Rev. J. Cave Brown, Kidderpore, for re-election, proposed by Mr Grote and seconded by Mr. Blanford.

A letter from R. B. Chapman. Esq., intimating his desire to withdraw from the Society, was recorded.

The Council recommended, on the part the Philological Committee, that the Yóga Darsâna be published in the Sanskrit series of the Bibliotheca Indica.

The Council reported that 136 duplicate bird-skins have been added to the museum during the last two months.

The following communications were received :—

1. From C. Horne, Esq., C. S., "Notes on the Pi-lo-shan-na of General Cunningham."

2. From W. Theobald, Esq., Jr., "Notes and Queries on Zoology."

3. From C. Horne, Esq., C. S., "Notes on an ancient Hindu Temple at Malaon."

4. From Col. J. T. Walker a translation of a paper by Capt. Golubief, "Observations on the astronomical points determined by the brothers Schlagintweit in Central Asia."

5. From W. Masters, Esq., Professor of Kishnaghur College. "A few notes on the earthquakes that lately disturbed Lower Bengal."

6. From Profr. R. Von Schlagintweit of Giessen, "Comparative hypsometrical and physical tableau of High Asia."

This paper of which the following is an abstract, was read by the Secretary.

The object of Mr. Schlagintweit's paper was to give a summary of the Physical features of High Asia, and to institute a comparison of them with the corresponding features of the Alps and Andes. The subject was treated under six heads, viz.: Geographical configuration; Hydrography; the Phenomena of snow, glaciers, &c.; Habitations; Extreme heights visited by man; and the Limits of vegetable and animal life. The author sought to correct the prevailing impression that Tibet is an elevated table land, an idea which still holds its ground, in spite of the writings of Humboldt, Strachey, Cunningham and Thomson. Between the Karakorum and Kúnlun, especially over the western crest of the former, there are several elevated tracts of between 16,000 and 18,000 ft. These tracts are below the snow-line, and without vegetation. Beyond these, in the far distance, snowy peaks are perceived, besides which are nothing but barren rocks and extensive sterile plains, well watered however, by glacier streams. The plateaux of the Andes are more extensive than those of the Himalaya, and have large towns at elevations of from 11,000 to 14,000 ft. The mean height of 19 passes in the Himalaya is 17,800 ft; the mean of three in the Karakorum 18,700, and that of two in the Kunlun, 17,000 ft. The highest in the Himalaya is the Gámin Pass leading from Garhwal to Gnari Khorsum at an elevation of 20,459 ft. In the Andes, the average elevation of the passes is 14,000 ft.

Of the peaks of the Himalaya, 17 exceed 25,000 ft., 40 are above 23,000 ft., and 120 are above 20,000 ft.; the highest is Mount Everest, which is 29,000 ft. The highest of the Karakorum range is that known as K. 2, which is 28,278 ft. in height, and second only to

Mount Everest. None of the peaks yet measured in the Künlun exceed 22,000 ft. The highest peak of the Andes is Aconcagua 23,004 ft. The highest of the Alps are Mont Blanc, 15,784 ft. and Monte Rosa 15,223 ft.

The lakes and springs in the Himalaya were next discussed and compared with those of the Andes; the lakes of the Himalaya were shewn to be of no great size, but to range up to 16,620.

The snows of the Himalaya have been known to extend in winter down to 2,500 ft, but the average limit may be placed at about 5,000 ft. The summer snow-line is lower on the southern than the northern flank of the range, as was first pointed out by Webb and Moorcroft; being 16,200 ft. for the former, and 17,400 ft. for the latter. This anomaly is attributed to the greater dampness of the atmosphere to the south of the range.

The greatest height visited by the brothers Schlagintweit is, as measured by them, 22,239 ft., but Mr. Glaisher has ascended in a balloon to a height of at least 30,000 ft., at which he became unable to take further observations, and it is believed that he rose as high as 36,960 ft. This is the greatest elevation ever reached by man.

On the Himalaya, trees extend up to 11,800 ft. and extensive forests occur a little below this height; grain is cultivated up to the same maximum elevation. Shrubs extend up to 15,200 ft. or nearly the height of Mont Blanc, and in the Karakorum up to 16,419 ft. Monkeys range up to beyond 11,000 ft. and Tigers to the same height in the Himalaya. Neither of these are met with, however, in Western Thibet. Leopards occur at 13,000 and 14,000 ft. and jackals between 16,000 and 17,000 ft. Dogs accompany the Thibetan shepherds up to 18,000 ft. The ranges of some of the lower animals were also noticed. Doves appear to range higher than any other birds.

LIST OF ORDINARY MEMBERS.

The * distinguishes Non-Subscribing and the † Non-Resident Members.

Date of Election.			
1847	June	2.	†Abbott, Lieut.-Col. J., Artillery.	Umballa
1860	Dec.	5.	Abdool Luteef, Khan Bahadur, Maulavi.	Calcutta
1865	June	7.	Agabeg, J. Esq.	Calcutta
1860	July	4.	†Ahmad Khan Saiëd, Bahadur.	Allyghur
1862	April	2.	†Aitchison, C. U. Esq., C S.	Lahore
1862	April	4.	†Aitchison, J. E. T. Esq., M. D.	Umritsar
1859	Feb.	2.	*Alabaster, C. Esq.	China
1852	July	7.	*Allen, C. Esq., B. C. S.	Europe
1864	May	4.	†Alexander, N. S. Esq., C. S.	Purneah
1860	Oct.	3.	Amir Ali, Khan, Múnshí.	Calcutta
1861	May	1.	Anderson, Dr. T., F. L S.	Calcutta
1865	Jan.	11.	Anderson, Dr. J., F. L. S.	Calcutta
1843	Sept.	4.	*Anderson, Lieut.-Col. W., Bengal Artillery.	Europe
1864	Dec	7.	Anderson, W. Esq.	Calcutta
1860	Nov.	7.	†Anley, W, A. D., Esq,	Chaprah
1862	Oct.	8.	Apurva Krishna, Rajah, Bahadur.	Calcutta
1859	Oct.	12.	Archer, Dr. C.	Calcutta
1861	Sept.	4.	Asghur Ali, Khan Bahadur, Nawab.	Calcutta
1861	July	3.	*Asphar, J. J. T. H. Esq.	Europe
1864	Dec.	7.	†Atkinson, E. F. T Esq.	Jaunpore
1855	July	4.	Atkinson, W. S. Esq., M. A., F L S	Calcutta
1861	Feb.	6.	†Austen, Capt. H. H G., H. M.'s 24th Foot, Surv. Genl.'s Dept.	Dehra Dhoon
1826	Sept.	6.	Avdall, J. Esq.	Calcutta
1835	Oct.	7.	*Baker, Col. W. E., Bengal Engineers.	Europe
1865	Nov.	1.	Ball, V. Esq.	Calcutta
1860	Nov.	7.	Banerjea, Rev. K. M.	Calcutta
1864	May	4.	*Barry, Dr. J. B.	Europe
1862	Aug.	6.	†Basevi, Capt. J. P., Royal Engineers.	Dehra Dhoon
1860	July	4.	*Batten, G. H. M Esq., B. C. S.	Europe
1838	Jan.	3.	†Batten, J. H. Esq., B. C. S.	Almorah
1859	May	4.	Bayley, E. C. Esq., B. C. S.	Calcutta

Date of Election.		
1861 Feb.	6.	Bayley, S. C. Esq., B. C. S. — Calcutta
1849 June	6.	Beadon, Hon'ble C., B. C. S. — Calcutta
1864 Sept.	7.	†Beames, J. Esq., C. S. — Purneah
1841 April	7.	Beaufort, F. L. Esq., B. C. S. — Calcutta
1861 Sept.	4.	†Beavan, Lieut. R. C., late 62nd B.N.I. — Roorkie
1847 Aug.	4.	*Beckwith, J. Esq. — Europe
1830 Sept.	1.	*Benson, Lieut.-Col. R. — Europe
1862 Dec.	3.	†Bernard, C. E. Esq. — Nagpore
1862 Aug.	6.	Beverley, H. Esq., C. S. — Calcutta
1862 June	4.	†Bhau Daji, Dr. — Bombay
1862 July	2.	Bhola Nath Mullick, Bábu. — Calcutta
1864 Nov.	2.	Bhoodeb Mookerjee, Bábu. — Chinsurah
1840 July	15.	*Birch, Major-General Sir R. J. H., K. C. B. — Europe
1864 May	4.	Bird, Dr. R., Civil Surgeon. — Howrah
1846 Mar.	4.	*Blagrave, Major T. C., 26th Regt., B. N. I. — Europe
1859 Sept.	7.	Blane, Lieut.-Col. S. J. — Calcutta
1857 Mar.	4.	Blanford, H. F. Esq., A. R. S. M., F. G. S. — Calcutta
1859 Aug.	3.	†Blanford, W. T. Esq., A. R. S. M., F. G. S. Geol. Surv. — Bombay
1864 April	6.	Blochmann, H. Esq., M. A. — Calcutta
1857 Aug.	2.	*Bogle, Lieut.-Col. Sir A., Kt. — Europe
1859 Aug.	3.	Bolie Chand Singh, Bábu. — Calcutta
1864 Mar.	2.	Bowie, Lt. G. M. Madras Staff Corps. — Calcutta
1859 Oct.	12	†Bowring, L. B. Esq., B. C. S. — Bangalore
1854 Nov.	1.	*Boycott, Dr. T., B. M. S. — Europe
1865 May	3	†Bradford, C. W. V. Esq. — Hooghly
1860 Mar.	7.	†Brandis, Dr. D. — Rangoon
1860 Oct.	3.	†Brandreth, J. E. L. Esq. — Rowal Pindee
1864 Dec.	7.	Branson, J. H. A. Esq. — Calcutta
1862 Jan.	15.	*Briggs, Major D. — Europe
1847 June	2.	*Brodie, Capt. T., 5th Regt., B. N. I. — Europe
1860 Nov.	7.	†Browne, Capt. Horace A. — Rangoon
1863 Aug.	5.	†Bunkim Chunder Chatterjee, B. A. Bábu. — Barripore
1856 Sept.	3.	Busheerooddin, Sultan Mohammad. — Chinsurah
1859 April	6.	Calcutta, Right Rev. Lord Bishop of. — Calcutta
1860 June	6.	†Campbell, C. J. Esq., C. E. — Delhi
1859 Sept.	7.	*Campbell, Dr. A. — Europe
1863 June	3.	Campbell, Hon'ble G. — Calcutta
1860 Jan.	3.	†Carnac, J. H. Rivett, Esq., B. C. S. — Nagpore
1865 Nov.	1.	†Carnegy, P. Esq. — Oudhe
1856 Sept.	3.	Chapman, R. B. Esq., B. C. S. — Calcutta

Date of Election.			
1860	Oct.	3.	†Christian, J. Esq.	Monghyr
1863	Aug.	5	†Chunder Nath Roy, Cowar.	Natore
1863	April	1.	*Cleghorn Dr. H.	Europe
1863	June	3.	†Clementson, E. W. Esq.	Moulmein
1864	May	4.	†Cline, G. W. Esq.	Nagpore
1861	Sept.	4.	†Cockburn, J. F. Esq., C. E.	Kurhurbari Colliery
1862	April	2.	Colles, J A. P. Esq., M. D.	Calcutta
1851	Mar.	5.	*Colvin, J. H. B. Esq, B. C. S.	Europe
1860	Dec.	5.	†Cooper, F. H. Esq., B. C. S.	Delhi
1857	Mar.	4.	*Cowell, E. B. Esq, M. A.	Europe
1861	July	3.	*Crockett, Oliver R. Esq.	China
1862	April	2.	*Dalrymple, F. A. E. Esq, C. S.	Europe
1847	June	2.	†Dalton, Lieut.-Col. E. T., 9th Regt. B. N. I.	Chota Nagpore
1861	Mar.	6	†Davey, N. T. Esq, Revenue Survey.	Cachar
1865	May	3.	†Davies, C. Esq.	Rotasghur
1861	Nov.	6.	*Davies, R H. Esq., B. C. S.	Europe
1864	July	6.	†Debendra Mullick, Bábu.	Calcutta
1856	June	4.	†DeBourbel, Major R., Bengal Engrs.	Assam
1861	June	5.	†Denison, His Excellency Sir W., K. C. B.	Madras
1863	Feb.	4.	†Deo Narain Singh, Hon'ble Rajah.	Benares
1863	June	3.	†Depree, Capt. G. C., Royal Artillery.	Chota Nagpore
1861	Mar.	6.	*Devereux, Hon'ble H. B., B. C. S.	Europe
1862	May	7.	†Dhunpati Sinha Dooghur, Babu.	Moorshedabad
1853	Sept.	7.	Dickens, Lieut.-Col. C. H.	Calcutta
1860	Nov.	7.	Digumber Mitra, Babu.	Calcutta
1861	Jan.	9.	†Dodsworth, W. T Esq.	Dehra Dhoon
1859	Sept.	7.	*Douglas, Lieut.-Col. C.	Europe
1854	July	5	†Drummond, Hon'ble E., B. C. S.	Allahabad
1861	Feb.	6.	†Duhan, H. Esq., G. T. Survey.	Dehra Dhoon
1864	Dec.	7.	Dunlop, H. G. Esq.	Calcutta
1860	Jan.	4.	*Duka, Dr. T.	Europe
1861	May	1.	*Earle, Capt E. L., Bengal Artillery.	Europe
1857	May	6.	*Eatwell, Dr. W. C. B.	Europe
1840	Oct.	7.	*Edgeworth, M. P. Esq., B. C. S.	Europe
1863	Mar.	4.	Eden, Hon'ble A.	Calcutta
1863	May	6.	†Edgar, J. W. Esq., B. C. S.	Cachar
1859	May	4.	*Edmonstone, Hon'ble G. F., B. C. S.	Europe
1865	Feb.	1.	†Egerton, P. H. Esq., B. C. S.	Umritsar

Date of Election.		
1846 Jan. 7.	*Elliott, Walter, Esq., M. C. S.	Europe
1859 Nov. 2.	*Elliott, C. A. Esq., B. C. S.	Europe
1863 April 1.	†Ellis, Hon'ble R. S., C S, C. B.	Madras
1856 Mar. 5.	*Ellis, Lieut.-Col. R. R. W., 23rd Regt. B. N. I.	Europe
1854 Nov. 1.	†Elphinstone, Capt. N W. 4th Regt. B. N I.	Jullundur
1861 Jan. 9.	*Erskine, Hon'ble C. J., B. C. S.	Europe
1856 Aug. 6.	*Erskine, Major W. C., C. B.	Europe
1863 Oct. 7.	Ewart, Dr. J.	Calcutta
1862 Aug. 6.	*Eyre, Col. Vincent, C. B.	Europe
1865 June 7.	Fawcus, Dr. J.	Calcutta
1851 May 7.	Fayrer, Dr. J, B M. S.	Calcutta
1863 Jan. 15.	†Fedden, Francis, Esq., Geol. Survey.	Calcutta
1865 Aug. 2.	Fenn, S. Esq.	Calcutta
1859 Oct. 12.	†Fisher, A. Esq.	China
1860 Mar. 7.	Fitzwilliam, Hon'ble W. S.	Calcutta
1865 April 5.	Fleming, Dr. J. M. 29th P. N. I.	Barrackpore
1861 Feb. 6.	†Forrest, R. Esq., Civil Engineer.	Etwah
1863 Dec. 2.	†Forsyth, Lieut. J.	Nagpore
1863 June 3.	†Forsyth, T D. Esq., C B.	Lahore
1860 Mar. 7.	†Frere, His Excellency Sir H. Bartle, K. C. B., B. C. S.	Bombay
1861 Sept. 4.	†Fuller, Capt A. P.	Lahore
1859 Oct. 12.	†Furlong, Major J. G. R.	Agra.
1859 Dec. 7.	Futteh Ali, Maulavi.	Calcutta
1849 Sept. 5.	*Fytche, Lieut.-Col. A., 70th Regt. B. N. I.	Europe
1864 Aug 11.	†Garrett, C B. Esq., C. S.	Shahabad
1859 Aug. 3.	Gastrell, Lieut.-Col. J. E., 13th Regt. N. I, Rev. Survey.	Calcutta
1859 Sept. 7.	Geoghegan. J Esq, B. C. S.	Calcutta
1865 June 7.	†Giles, A H Esq.	Dinajpore
1842 Sept. 2.	*Gladstone, W. Esq.	Europe
1859 Sept. 7.	*Goodeve, E. Esq., M. D.	Europe
1862 July 2.	†Gordon, J. D. Esq, C. S.	Pubna
1864 Dec. 5.	†Gooroochurn Dáss, Babu.	Jahanabad
1862 Feb. 5.	†Gourdoss Bysack, Babu.	Hooghly
1863 Nov. 4.	†Gowan, Major J. G.	Sangor
1859 Dec. 7.	*Grant, Sir J. P., K. C. B.	Europe
1860 Jan. 4.	Grant, T. R. Esq.	Calcutta
1860 July 4.	Grey, Hon'ble W, B. C. S.	Calcutta
1861 Sept. 4.	†Griffin, L Esq, B. C S.	Lahore
1860 Nov. 7.	†Griffith, R. T. H. Esq.	Benares

Date of Election.			
1849	Aug.	1.	Grote, A. Esq., B. C. S., F. L. S	Calcutta
1861	Feb.	6.	†Growse, F. S. Esq., B. C. S.	Mynpoorię
1862	Feb.	5.	*Guthrie, Col. C. S, Bengal Engrs.	Europe
1847	June	2.	*Hall, F. E. Esq., M. A, D C. L.	Europe
1860	May	2.	*Halleur, Dr. H.	Europe
1863	June	3.	†Hamilton, Col. G. W.	Delhi
1855	Mar.	7.	*Hamilton, R. Esq.	China
1828	Nov.	12.	*Hamilton, Sir R. N. E., Bart, B. C S.	Europe
1847	May	5	*Hannyngton, Col. J. C, 63rd Regt N. I.	Europe
1859	Oct.	12	*Hardie, Dr. G. K.	Europe
1863	Mar.	4.	Hari Dass Dutt, Bábu.	Calcutta
1862	Oct	8	*Harington, Hon'ble H B	Europe
1860	Oct	3.	†Harris, E B Esq, Civil Surgeon.	Deoghur
1861	Feb	6.	†Harrison, A S Esq., B. A.	Behar
1864	Nov.	2	Hatton, C W Esq.	Calcutta
1859	Oct.	12.	†Haughton, Lieut.-Col J C.	Europe
1848	May	3.	*Hearsay, Maj Gl Sir J. B, K. C. B	Europe
1862	Aug	6	Heeley, W L Esq, C. S.	Calcutta
1859	Aug	3	*Henessey, J. B N Esq.	Europe
1853	July	6.	†Herschel, W. J Esq, B. C S.	Midnapore
1854	Mar.	1	*Hichens, Lieut W, Bengal Engrs	Europe
1860	May	2	†Hobhouse, C P Esq, B. C. S.	Midnapore
1859	Sept	7.	†Hopkinson, Major H.	Asssm
1863	July	1	†Horne, C Esq, C S.	Mynpoorie
1860	Mar.	7	Hovenden, Major J J., Bengal Engrs.	Calcutta
1863	Jan	15.	†Howell, M S. Esq, C. S.	Shajehanpore
1860	Jan.	4.	†Innes, Major J. J. M	Lahore
1862	Oct.	8	†Irwin, Valentine, Esq., C. S.	Narail, Jessore
1853	Dec.	7.	†Ishureeprasád Sinha, Bahadur, Rajah.	Benares
1864	Sept.	7.	Jackson, Hon'ble E.	Calcutta
1861	Jan.	9.	Jackson, Hon'ble L S., B. C. S.	Calcutta
1841	April	7.	*Jackson, W. B. Esq, B C. S.	Europe
1851	April	2.	Jádava Krishna Sinha, Bábu.	Calcutta
1864	June	1.	†Jadu Nauth Mookerjee, Bábu.	Rajshahi
1861	Dec.	4.	†James, Major H. R, C. B.	Peshawur
1864	Sept.	7.	†Jardine, R Esq., C. S.	Etawah
1865	Nov.	1.	Jennings, S. Esq.	Calcutta
1845	Dec.	3.	†Jerdon, Dr. T. C., M M S.	Umballa
1847	June	2.	*Johnstone, J. Esq.	Europe
1862	Mar.	5.	*Johnstone, Capt. J., Assistant Commissioner.	Europe
1859	Sept.	7.	*Jones, R. Esq.	Europe

Date of Election.		
1865 June 7.	†Joykissen Dáss Bahadur, Rajah.	Allyghur
1864 Feb. 3.	Kaliprosonno Dutt, Bábu.	Calcutta
1858 Feb. 3.	Kaliprosonno Sinha, Bábu.	Calcutta
1863 July 1.	*Kane, H. S. Esq., M. D.	Europe
1859 Mar. 2.	Kasinath Roy Chaudhuri, Bábu.	Cásipore, Calcutta
1850 April 3.	*Kay, Rev. W., D. D.	Europe
1861 Dec 15.	†Kempson, M. Esq , M. A.	Bareilly
1862 Jan. 15.	†King, W. Esq , Jr., Geol. Survey.	Madras
1839 Mar. 6.	*Laidlay, J. W. Esq.	Europe
1861 Mar. 6.	*Laing, Hon'ble S.	Europe
1863 Sept. 2.	Lane, T. B. Esq , B. C. S.	Calcutta
1851 Dec. 3.	†Layard, Major F. P.	Bhagulpore
1864 Feb. 3.	†Leeds,H.Esq ,Conservatorof Forests.	Burmah
1852 April 7.	Lees, Major W. N , LL. D.	Calcutta
1859 Dec. 7.	Leonard, H. Esq , C. E.	Calcutta
1865 June 7.	†Lewin, Lieut. T. H.	Chittagong
1856 Feb. 6.	*Liebig, Dr. G. Von , B M. S.	Europe
1860 Jan. 4.	Lindsay, E. J. Esq.	Calcutta
1861 Nov. 6	†Lloyd, Capt. M	Tounghoo
1862 Dec. 3.	Lobb, S Esq., M. A.	Calcutta
1835 Oct. 7.	Loch, Hon ble G , B. C. S.	Calcutta
1864 Nov. 2.	Locke, H. H Esq.	Calcutta
1828 July 2.	*Low, Major-General Sir J , K C. B.	Europe
1861 April 3.	†Lumsden, Major P S.	Gowhatty
1854 Nov. 1.	*Lushington, F. A. Esq , B. C. S.	Europe
1848 April 5.	*Maclagan,'Lieut.-Col. R , F. R. S. E.	Europe
1865 Nov. 1.	†Macgregor, Lieut C	Buxa
1853 April 6.	Macrae, Dr A C , B. M. S.	Calcutta
1863 Jan. 15.	Maine, Hon'ble H S.	Calcutta
1860 Jan. 4.	Main, D. K. Esq , M A.	Calcutta
1865 Mar. 1.	Malleson, Major G. B.	Calcutta
1862 Sept. 3.	Mallet, F. R Esq.	Calcutta
1860 July 4.	*Man, E. G Esq.	Europe
1852 Nov. 3.	Manickjee Rustomjee, Esq.	Calcutta
1861 June 5.	†Mán Sinha Bahadur, Maháraja.	Oudh
1864 Aug. 11.	*Marks, Rev. J. Ebenezer.	Europe
1850 Jan 2.	*Marshman, J. C. Esq.	Europe
1862 Sept. 3.	†Martin, R. L. Esq , B. A.	Dacca
1863 Oct. 7.	†Martin, T. Esq., C. E.	Gowhatty
1863 Nov. 4.	*McClelland, Dr. J.	Europe
1837 Oct 4.	†McLeod, Hon'ble D. F., C. B , B C. S.	Lahore
1860 Mar. 7.	†Medlicott, H. B. Esq., F. G. S.	Gwalior

Date of Election.		
1853 April	6.	†Medlicott, J. G Esq. B. A. — Miduapore
1861 Feb.	6.	†Melville, Capt. A. B., late 67th N. I. Surv. Genl.'s Dept. — Dehra Dhoon
1855 Nov.	7.	*Middleton, J. Esq. — Europe
1850 April	3.	*Mills, A. J. M. Esq., B. C. S. — Europe
1860 April	4.	†Money, A. Esq., B. C. S. — Bhagulpore
1847 April	7.	*Money, D. J. Esq., B. C. S. — Europe
1856 Feb.	6.	Money, J W. B. Esq. — Calcutta
1865 July	5.	†Morland, Major J. — Muree
1854 Dec.	6.	*Morris, G. G. Esq., B. C. S. — Europe
1864 June	1.	†Moula Bukhsh, Khan Bahadur, Maulvi. — Patna
1837 July	5.	*Muir, J. Esq. — Europe
1854 Oct.	11.	Muir, Hon'ble W B. C. S. — Calcutta
1859 Aug.	3.	†Murray, Lieut. W G, 68th N. I. — Mussoorie
1862 July	2.	*Napier, Hon'ble Major-Genl Sir R, K. C. B. — Europe
1860 Nov.	7.	*Newmarch, Major C D. — Europe
1865 Feb	1.	†Newul Khishwar, Moonshee. — Lucknow
1852 Sept.	1.	*Nicholls, Capt. W. T., 24th Regiment, M. N I — Europe
1863 Sept.	2.	†Norman, Capt. F B — Benares
1863 Jan.	15.	Norman, Hon'ble J P. — Calcutta
1859 Aug.	3.	Oldhard, J Esq. — Calcutta
1860 June	4	†Oldham, C. Esq, Geological Survey. — Madras
1851 June	4.	Oldham, T. Esq., LL D, F. R. S. — Calcutta
1864 Dec.	7.	Onslow, D B., Esq. — Barrackpore
1837 June	7.	*O'Shaughnessy, Sir W. B. — Europe
1847 Feb.	10	*Ousely, Major W R. — Europe
1864 Mar.	2.	Palmer, Dr. W. J. — Calcutta
1862 May	7.	Partridge, S. B Esq., M. D. — Calcutta
1860 Feb.	1.	†Pearse, Major G. G. — Madras
1864 Mar.	2.	†Pellew, F. H. Esq., C. S. — Burrisal
1865 Sept.	6.	†Peppe, J. H. Esq — Gya
1835 July	1.	†Phayre, L.-Col. A. P., C. B. — Rangoon
1864 Nov.	2.	Phear, Hon'ble J B. — Calcutta
1862 Oct	8.	†Poolin Behary Sen, Bábu. — Berhampore
1849 Sept.	5.	Pratapchandra Sinha, Rajah, Bahadur — Calcutta
1839 Mar.	6.	Pratt, Ven'ble Archdeacon J. H., M.A. — Calcutta
1860 Jan.	4.	Preonath Sett, Bábu. — Calcutta
1825 Mar.	9.	*Prinsep. C. R. Esq. — Europe
1837 Feb.	1.	Prosonno Coomar Tagore, Bábu. — Calcutta
1864 Feb	3.	†Pullan, Lieut. A., G. T. Survey. — Mussoorie

Date of Election		
1862 April 2.	Raban, Major H.	Calcutta
1853 April 6.	Radha Nath Sikdar, Bábu.	Calcutta
1849 Sept. 5.	Rajendra Dutt, Bábu.	Calcutta
1856 Mar. 5.	Rajendralála Mitra, Bábu.	Calcutta
1864 May 4.	Ramánath Bose, Bábu.	Calcutta
1837 Feb. 1.	Ramánath Tagore, Babu.	Calcutta
1865 July 5.	†Ramsden, Lieut. W. C.	Julpygorie
1860 Mar. 7.	*Reid, H S. Esq.	Europe
1864 Dec. 7.	†Richardson, R. J Esq., C. S.	Gya
1857 June 7.	Riddell, H. B. Esq , B. C. S.	Calcutta
1857 Aug. 6.	†Roberts, Hon'ble A. A., B C. S.	Panjab
1863 April 1.	†Robertson, C Esq., C. S.	Allahabad
1864 Dec. 7.	†Robertson, E. S. Esq.	Azimghur
1863 May 6.	†Robertson, H. D. Esq., C S.	Saharunpore
1862 Mar. 5.	Robinson, Lieut.-Col. D. G., Bengal Engineers.	Calcutta
1865 Feb. 1.	Robinson, S. H. Esq.	Calcutta
1853 Aug. 3.	*Roer, Dr. E.	Europe
1847 Dec. 1.	*Rogers, Capt. T. E.	Europe
1859 Sept. 7.	*Russell, A. E. Esq., B C. S.	Europe
1864 Dec. 7.	Sarkies, J. C Esq.	Calcutta
1865 June 7.	†Sárodáprosád Mookerjee, Bábu.	Baraset
1859 Feb. 2.	Satischunder Roy Mahárajah.	Krishnagur
1856 Aug. 6.	Satyasharana Ghosal, Rajah.	Bhookylas, Calcutta
1861 Dec. 4	†Saunders, C. B. Esq., B. C. S.	Mysore
1864 June 1.	*Saunders, J. O'B. Esq.	Europe
1854 Dec. 6.	†Saxton, Lt.-Col. G. H, F G. S., 38th M. N. I.	Vizagapatam
1854 May 2.	Schiller, F. Esq.	Calcutta
1860 Feb. 1.	*Scott, Col. E. W. S.	Europe
1865 Nov. 1.	Scott J. M Esq.	Calcutta
1859 Aug. 3.	†Scott, W. H Esq.	Dehra Dhoon
1863 Sept. 3.	Shama Churn Sirkar, Babu.	Calcutta
1860 July 4.	†Shelverton, G. Esq.	Dehra Dhoon
1845 Jan. 14.	*Sherwill, Lt.-Col. W. S., 66th Regiment B. N I., F.G S., F R G. S.	Europe
1864 Nov. 2.	Short, Lt.-Col. W. D , R E.	Calcutta
1863 April 1.	*Showers, Major C. L	Europe
1864 Feb. 3.	Shumbhoonath Pundit, Hon'ble.	Calcutta
1864 Sept. 7.	†Sladen, Capt. E. B.	Mandalay
1865 July 5.	Smith, D. Boyes, Esq. M. D.	Calcutta
1856 Feb. 6.	*Smith, Col. J. F.	Europe
1854 Sept 6.	†Spankie, R. Esq., B. C. S.	Jaunpore
1864 Mar. 2.	†Spearman, Lieut. H. R.	Shoaygyen

Date of Election.		
1860 May	2.	†Staunton, Major F. S., Beng. Engs. — Darjiling
1843 Sept.	4.	*Stephen, Major J. G., 8th N. I. — Europe
1863 Jan	15	†Sterndale. R. A. Esq. — Nagpore
1862 Oct.	2.	†Stevens, C. C Esq — Ruxar
1863 May	6.	†Stevens, W. H Esq. — Sylhet
1863 Sept	2.	Stewart, R. D. Esq. — Calcutta
1864 April	6.	†Stewart, J. L. Esq. M D. — Lahore
1861 Sept.	4.	Stokes, Whitley, Esq — Calcutta
1863 Nov.	4.	Stoliczka, Dr. F. — Calcutta
1848 June	7.	Strachey, J. Esq., B. C. S. — Calcutta
1843 May	3.	*Strachey, Lt.-Col. R, F. R. S, F. L. S, F. G S. — Europe
1859 Mar.	2.	*Stubbs, Capt. F.W., Beng. Artillery. — Europe
1861 Oct.	2.	†Sulderuddin, Moonshi. — Pundooah
1858 July	7.	†Sutherland, H C. Esq., B. C. S. — Backergunje
1864 Aug	11.	Swinhoe, W. Esq. — Calcutta
1865 Sept.	6.	Tawney, C H. Esq. — Calcutta
1865 April	5.	†Taylor, R Esq. — Madras
1860 May	2	*Temple, R. Esq., B. C. S. — Europe
1859 Mar.	2	†Theobald, W. Esq, Jr., Geological Survey. — Thayet Myo
1860 June	6	Thompson, J. G Esq. — Calcutta
1863 Mar.	4.	†Thompson, Major G. H., Bengal Staff Corps. — Hazareebaug
1855 June	6.	*Thompson, Dr. T., M. D., F. R. S., F. L S, F.R.G S. — Europe
1853 Nov.	21.	†Thornhill, C B. Esq, B. C. S. — Allahabad
1863 June	4.	†Thornton, T. H. Esq. — Murree
1847 June	2.	*Thuillier, Lt.-Col H. L, F.R G.S., Bengal Artillery. — Europe
1863 May	6.	Thuillier, Lt. H R. — Calcutta
1862 July	2.	*Thurlow. Hon'ble T J. H. — Europe
1865 July	5	†Tolbort, T. W. H Esq., C. S. — Mooltan
1865 July	5	Tonnerre, Dr. C. F. — Calcutta
1862 Feb.	5.	†Torrens, Col. H. D. — Simla
1861 June	5.	†Tremlett, J. D Esq., C. S. — Lahore
1863 Mar.	4.	*Trevelyan, Right Hon'ble Sir C., K. C. B. — Europe
1841 Feb.	3.	Trevor, Hon'ble C. B, B. C. S. — Calcutta
1863 Feb.	4.	*Trevor, E. T. Esq., B. C. S. — Europe
1864 Mar.	2.	*Trevor, Lt. E. A Royal Eng. — Europe
1864 July	6.	*Trotter, Lieut. H. Bengal Eng. — Meerut
1864 Sept.	4.	Tween, A Esq., Geological Survey. — Calcutta
1863 May	6.	†Tyler, Dr J. — Etah

Date of Election.			
1860	May	2.	*Vanrenen, Capt. A. D., late 71st B. N. I. — Europe
1864	Feb.	3.	†Verchere, A. M., Esq., M. D. — Kohat
1864	April	6.	†Vijayaráma Gajapati Raj Munnia Sultan Bahadur, Maharajah Mirza. — Vezcanagram
1865	Nov.	1.	Waldie, D. Esq. — Calcutta
1861	May	1.	†Walker, Lt.-Col J. T., Bom. Engrs — Dehra Dhoon
1863	Dec.	2.	†Walker, A. G. Esq. — Shahapur, Panjab
1863	May	6	*Wall, P. W. Esq , C. S. — Europe
1863	Oct.	7.	Waller, Dr. W. K. — Calcutta
1863	Dec.	2.	Walters, Rev. M. D. C. — Calcutta
1862	Jan.	15.	†Ward, G E. Esq. — Dehra Dhoon
1852	July	7.	*Ward, J. J. Esq., B. C S. — Europe
1859	July	6.	*Warrand, R. H. M. Esq., B. C. S. — Europe
1865	May	3.	†Waterhouse, Lieut. J., Royal Artillery. — Delhi
1854	July	5.	*Watson, J Esq , B. C. S. — Europe
1847	Nov.	3.	*Waugh, Major-General Sir A. S., C B., F. R. S., F. R. G. S. — Europe
1862	Oct.	8.	Wheeler, J. T. Esq. — Calcutta
1864	July	6.	†Whishaw, J. C. Esq., Civil Surgeon. — Fyzabad
1864	Mar.	2.	Wilkinson, C. J. Esq — Calcutta
1861	Sept.	4.	*Williams, Dr. C., H. M.'s 68th Regt. — Europe
1859	Sept.	7.	†Wilson, W. L. Esq. — Beerbhoom
1859	Aug.	3.	†Wilmot, C. W. Esq. — Deoghur
1865	Feb.	1.	†Wilmot, E Esq. — Delhi
1861	May	7.	Woodrow, H Esq., M. A. — Calcutta
1859	Mar.	2.	*Wortley, Major A. H. P. — Europe
1862	Aug.	6	*Wylie, J. W. Esq., Bombay C. S. — Europe
1855	April	4.	*Young, Lt.-Col. C. B. — Europe
1856	July	2.	*Yule, Lt.-Col. H. — Europe

LIST OF HONORARY MEMBERS.

Date of Election.			
1825	Mar.	9.	M. Garcin de Tassy, Membre de l'Inst. — Paris
1826	,,	1.	Sir John Phillippart. — London
1829	July	1.	Count De Noe. — Paris
1831	Sept.	7.	Prof. Francis Bopp, Memb. de l'Académie. — Berlin
1831	,,	7.	Prof C. Lassen. — Bonn
1834	Nov.	5.	Sir J F. W. Herschel, F. R. S. — London
1834	,,	5.	Col. W. H. Sykes, F R. S. — London
1835	May	6.	Prof. Lea. — Philadelphia
1840	Mar.	4.	M. Reinaud, Memb de l'Instit., Prof. de l'Arabe. — Paris
1842	Feb.	4.	Dr Ewald — Gottingen
1842	,,	1.	Right Hon'ble Sir Edward Ryan, Kt. — London
1843	Mar.	30	Prof. Jules Mohl, Memb. de l'Institut — Paris
1847	May	5.	His Highness Hekekyan Bey. — Egypt
1847	Sept.	1.	Col. W. Munro — London
1847	Nov.	3.	His Highness the Nawab Nazim of Bengal. — Moorshedabad
1848	Feb.	2.	Dr. J. D. Hooker, R. N., F. R. S. — London
1848	Mar.	8.	Prof. Henry Princeton. — United States
1853	April	6.	Major-Gen Sir H. C. Rawlinson, K. C. B., F. R. S., D C. L. — London
1854	Aug.	2.	Col Sir Proby T. Cautley, K. C. B., F. R. S. — London
1855	Mar.	7.	Rájá Rádhakánta Deva, Báhádur. — Brindabun
1858	July	6.	B. H. Hodgson, Esquire — Europe
1859	Mar.	2.	Hon'ble Sir J W. Colvile, Kt. — Europe
1860	,,	7	Prof. Max Muller. — Oxford
1860	Nov.	7.	Mons. Stanislas Julien. — Paris
1860	,,	7	Col. Sir George Everest, Kt., F. R. S. — London
1860	,,	7.	Dr. Robert Wight — London
1860	,,	7.	Edward Thomas, Esquire. — London
1860	,,	7.	Dr. Aloys Sprenger. — Germany
1860	,,	7.	Dr. Albrecht Weber. — Berlin
1865	Sept.	6.	Edward Blyth, Esquire. — Europe

LIST OF CORRESPONDING MEMBERS.

1844	Oct.	2.	MacGowan, Dr. J.	Europe
1856	June	4.	Kremer, Mons. A. Von.	Alexandria
1856	,,	4.	Porter, Rev. J.	Damascus
1856	,,	4.	von Schlagintweit, Herr H.	Berlin
1856	,,	4.	Smith, Dr. E.	Beyrout
1856	,,	4.	Tailor, J., Esquire.	Bussorah

Date of Election.			
1856	June	4.	Wilson, Dr.	Bombay
1857	Mar.	4.	Neitner, J., Esquire.	Ceylon
1858	,,	3.	von Schlagintweit, Herr H. R.	Berlin
1859	Nov.	2.	Frederick, Dr. H.	Batavia
1859	May	4.	Bleeker, Dr. H.	Batavia
1860	Feb.	1.	Baker, Rev. H.	E. Malabar
1860	,,	1.	Swinhoe, R., Esq., H. M.'s Consulate.	Amoy
1860	April	4.	Haug, Dr. M.	Poonah
1861	July	3.	Gosche, Dr. R.	Berlin
1862	Mar.	5.	Murray, A., Esquire.	London
1863	Jan.	15.	Goldstucker, Dr. T.	London
1863	July	4.	Barnes, R. H. Esquire.	Ceylon

LIST OF ASSOCIATE MEMBERS.

1835	Oct.	7.	Stephenson, J., Esquire.	Europe
1838	Feb.	7.	Keramut Ali, Saied.	Hooghly
1843	Dec.	6.	Long, Rev. J.	Calcutta
1865	May	3.	Dall, Rev. C. H. A.	Calcutta

ELECTIONS IN 1865.

HONORARY MEMBER.

Edward Blyth, Esq.	Europe

ASSOCIATE MEMBER.

Rev. C. H. A. Dall.	Calcutta

ORDINARY MEMBERS.

Dr. John Anderson.	Calcutta
Lieut. J. R. Urquhart R. E.	Bhootan
P. H Egerton. Esq., B. C S.	Umritsar
Moonshee Newal Kishur.	Lucknow
S H. Robinson, Esq.	Calcutta
E. Wilmot, Esq.	Delhi
Major G B Malleson.	Calcutta
R. Taylor. Esq.	Allahabad
Dr. J. M. Fleming, 29th P. N. I.	Barrackpore
C. W. V. Bradford, Esq.	Hooghly
C. Davies. Esq.	Rotasghur
Lieut. J. Waterhouse, R. A.	Delhi
J. Agabeg, Esq.	Calcutta
A. H. Giles, Esq.	Dinajpur
Rajáh Joykissen Dáss, Bahadur.	Allyghur
Lieut. T. H. Lewin.	Chittagong.
Babu Sárodaprosuno Mookerjee.	Baraset
Dr. J. Fawcus.	Calcutta
Major J Morland.	Muree
Lieut. W C. Ramsden.	Julpigoree
D. Boyes Smith, Esq , M. D.	Calcutta
T. W. H Tolbort, Esq., C. S.	Mooltan
Dr. C. F. Tonnerre.	Calcutta
S. Fenn, Esq.	Calcutta
J H. Peppe, Esq.	Gya
C. H. Tawney, Esq	Calcutta
P. Carnegy, Esq.	Oudhe
Lieut. C. Macgregor.	Buxa
J. M. Scott, Esq.	Calcutta
V. Ball, Esq.	Calcutta
S. Jennings, Esq.	Calcutta
D. Waldie, Esq	Calcutta

LOSS OF MEMBERS DURING THE YEAR, 1865.

By retirement.

ORDINARY MEMBERS.

Dr. C. R. Francis.	Calcutta
Lieut.-Col. S. R. Tickell.	Moulmein
H. D. Sandeman, Esq.	Calcutta
C. S. Hogg, Esq.	Calcutta
Capt. E. Smyth.	Almorah
Babu Taruck Chunder Sircar.	Calcutta
C. H. Barnes, Esq.	Bhagulpore
R. E. Goolden, Esq.	Calcutta
Dr. B. Simpson	Darjeeling
J. W. McCrindle, Esq.	Calcutta
Capt. D. Macdonald.	Barrackpore
Dr. F. N. Macnamara.	Calcutta
Capt. T. G. Montgomerie.	Dehra Dhoor
Rajah Bunsput Sinha.	Allahabad
A. B. Sampson, Esq.	Calcutta
Babu Govin Chunder Sen.	Calcutta
C. Boulnois, Esq.	Calcutta
Lieut.-Col. F. D. Atkinson.	Calcutta
W. P. Duff, Esq.	Calcutta
Babu Joygopal Bysack.	Calcutta
E. G. Porter, Esq., C. S.	Bancoorah
Capt. H. Hyde.	Calcutta
Col. H. W. Norman, C. B.	Calcutta
Babu Juggodanund Mookerjee.	Calcutta
Rev. W. G. Cowie.	Calcutta

By Death.

HONORARY MEMBER.

Dr. H. Falconer.	Europe

ORDINARY MEMBERS.

Lieut. J. H. Urquhart, R. E.	Bhootan
Hon'ble E. P. Levinge.	Calcutta
Lieut.-Col. P. Stewart, R. E.	Europe
Babu Modhoosoodun Dáss.	Dacca
Brig.-General St. G. D. Shower.	Calcutta
E. O. Riley, Esq.	Bassein
R. T. Martin, Esq.	Calcutta
W. Murray, Esq., B. C. S.	Gowhatty
W. F. Goss, Esq.	Sumbulpore
Chunder Siker Roy, Rajah.	Julpigori
Moulavi Waheedoon Nubee Khan Bahadur.	Calcutta

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR FEBRUARY, 1866.

The monthly general meeting of the Asiatic Society of Bengal was held on the 7th instant.

E. C. Bayley, Esq., President, in the chair.

The minutes of the last meeting were read and confirmed.

Presentations were announced:—

1. From the Rev. J. Long, 2 copies of "Five hundred questions on the social condition of the Natives of India."

2. From J. F. Browne, Esq., a copy of "A General Report on the Tipperah District."

3. From J. Avdall, Esq., a copy of "Notice sur le Couvent Arménien de l'île S. Lazare de Venise by V. Langlois."

4. From Dr. J. Anderson, a young specimen of *Gavialis Gangeticus*. A specimen of *Crocodilus Porosus*. Two specimens of *Halcyon Smyrnensis* (white-breasted king fisher). A specimen of *Athene Brama* (spotted owlet). Two specimens of *Pteropus Edwardii* (flying fox): One of *Caprimulgus Asiaticus* (Common Indian Goat-Sucker): one of *Budytes Viridis* (Wagtail). Two of *Anthus Rufulus* (Slender Lark): Three of *Gyps Bengalensis* (Vulture), and one of *Dicrurus Macrocercus* (King Crow).

5. From Col. Phayre, three Burmese skulls and one from the Shan States.

6. From the Under-Secretary to the Govt. of Bengal, a box containing a specimen of sand poured forth near Thannah Roajan in Chittagong, on the occasion of the late earthquake.

The following letters accompany the donation ;—

No. 309.

From J. GEOGHEGAN, *Esq.*,

Under-Secretary to the Government of Bengal.

To THE SECRETARY

to the Asiatic Society of Bengal.

Fort William, the 16th, January 1866.

SIR,—I am directed by the Lieutenant-Governor to forward, for the information of the Council of the Asiatic Society, the accompanying copy of communications received from the Commissioner of Chittagong, Nos. 483 and 501, dated, respectively, the 27th ultimo and 3rd instant, and of the enclosed report from the Magistrate of Chittagong on the series of earthquakes which occurred in that district during December last. A sample of the sand referred to in the memorandum of Mr. Wilson, the Officiating Joint-Magistrate, is also forwarded herewith.

I have &c.

(Sd.) J. GEOGHEGAN,

Under-Secretary to the Govt. of Bengal.

From W. GORDON YOUNG, *Esq*, *Commissioner of the Chittagong Division*,—(*No.* 483, *dated the 27th December*, 1865.)

Forwarded for the information of the Government of Bengal. The undersigned hopes to be able shortly to report further particulars that may be of interest.

From A. SMITH, *Esq., Magistrate and Collector of Chittagong, to the Commissioner of the Chittagong Division*,—(*No.* 1392, *dated the 18th December*, 1865.)

Sir,—I have the honor to report to you the occurrence of a series of earthquakes commencing on the evening of the 15th instant.

2. One shock on that and another on the following evening were severe, and most masonry buildings have suffered damage.

3 About as many as twelve or fourteen distinct shocks have been counted, the last of which was about 12 o'clock to-day.

From W. GORDON YOUNG, *Esq*, *Commissioner of the Chittagong Division*,—(*No.* 501, *dated the 3rd January*, 1866.)

Forwarded for the information of the Lieutenant-Governor of Bengal in continuation of this office Memo. No 483, dated the 27th ultimo;

with a sample of the sand referred to in the memorandum of Mr. Wilson, the Officiating Joint-Magistrate.

From A. SMITH, *Esq*., *Magistrate and Collector of Chittagong, to the Commissioner of the Chittagong Division*,—(*No.* 1443, *dated the 29th December*, 1865.)

Sir,—In my No. 1392 of 18th instant, I had the honor to report to you the occurrence of a series of earthquakes commencing on the evening of Friday, the 15th, and extending to the morning of Wednesday, the 20th instant.

2. The following are, as nearly as possible, the times of occurrence of the most marked shocks, but I fear they must be taken only as approximate, and are not sufficiently accurate to be of any use for scientific purposes —

1st	Friday, December	15th,	6 50	P. M.
2nd	,, ,,	,,	7-10	,,
3rd	,, ,,	,,	10-30	,,
4th	Saturday, ,,	16th,	2-0	A. M.
5th	,, ,,	,,	4-0	,,
6th	,, ,,	,,	6-15	P. M.
7th	,, ,,	,,	8-40	,,
8th	Monday, ,,	18th,	12-0	Noon.
9th	Tuesday, ,,	19th,	2-0	P. M.
10th	,, ,,	,,	10-0	,,
11th	Wednesday ,,	20th,	2-0	A. M.

3. Of these shocks the first was very violent and caused considerable injuries to several of the masonry buildings in the station. The sixth also was severe; none of the others were so.

4. During the time from Friday evening to Sunday morning, there was observed a faint tremulous motion of the earth, and many people counted more shocks than I have enumerated during that period, but those I have given were the most marked and the best authenticated. The doubtful ones have been excluded.

5. In Thannah Roajan the earth's surface cracked in several places, and poured forth jets of water and a fine dark coloured sand, in appearance very much resembling the common medicinal preparation called grey powder. I enclose you a specimen of the sand, which differs in

appearance from the ordinary sand of the district, and which it would, perhaps, be worth while to submit to the Chemical Examiner of the Government for analysis.

6. From a memorandum by Mr. Wilson, the Joint-Magistrate, who visited the place of ejectment, and to whom I am indebted for the specimen, it appears that no sand has ever been found there in the deepest excavations, so that it must have been forced up from a great depth.

7. Similar jets and fissures appear to have also occurred near Mr. Miller's tea garden on the Sungoo.

8. It may also be worth mentioning that my camp being at the time in its vicinity, I visited on Saturday, the 16th instant, the burning well at Koomaree Koond. This is one of five such wells on the Seetacoond range which are ordinarily supposed to be connected with internal volcanic agency. At the time of my visit it was burning, an igneous gas rising from the surface of the water and igniting in contact with the atmosphere, but it gave no emissions of more than the ordinary strength; nor, so far as can be ascertained, did any of the others, during these recent indications of internal volcanic action.

"I yesterday visited Mouzah Guzara, in Thannah Roajan, for the purpose of examining the effects which were reported to have been produced there by the late earthquake.

"I found that in several places sand and water had burst out of cracks in the clay soil. None of these jets or springs were at work when I went to the place, but each had left a heap of fine dark coloured sand. These heaps are of various sizes. The smallest is as large as a mole hill, and the largest which I saw perfect was about 12 feet in diameter and about 3 feet in the centre. This sand heap (on the land of Syud Sultan) was still wet at 3 o'clock yesterday, and the ground around it on all sides shewed signs of having been recently flooded. It appears that this jet of sand and water, which no doubt began to play at the time when the first violent shock of the earthquake was felt, (6-50 P. M., 15th December, 1865) went on working till ten or half past ten the next morning. The water rose (I was told) some inches from the ground, and (as far as I could learn) it was cold.

"About a mile from this place, on the land of Durjotee Roy, the ground cracked to the length of 38 feet. The direction is from N. N. E. to S. S. W The ground on the E. of this crack sank to the depth of about a foot, and a great heap of sand, some 3 or 3½ feet high and 10 or 12 feet across, rose from the centre. I measured the length of the crack and the depth of the sinking of the ground, but most of the sand had been cleared away before my visit, by the neighbouring villagers, for use as a charm. The crack must have been about 6 inches wide in the middle. All the sand thrown up must have come from a considerable depth, as nothing but clay has ever been found in the deepest excavation in the neighbourhood or within many miles. I believe no sandy soil is to be found in any part of the trough shaped country lying between the Nizampore range and the eastern hills."

(Sd.) R. H. WILSON.

The 20th December, 1865.

No. 572.

From S. C. BAYLEY, *Esq.*,
Junior Secretary to the Government of Bengal.

To THE SECRETARY
to the Asiatic Society of Bengal.

Fort William the 30th January, 1866.

Sir,—In continuation of the letter from this Office, No. 309, dated the 16th instant, I am directed by the Lieutenant-Governor to forward, for the information of the Council of the Asiatic Society, the accompanying copy of a communication from the Commissioner of Chittagong, No. 517, dated the 6th idem, and of its enclosed detailed report from the Executive Engineer, on the series of earthquakes which occurred in that District during December last. Copy of a further communication* from the Commissioner, with its annexure, reporting the occurrence of another earthquake at 4-20 A. M. of the 6th January, is also herewith forwarded.

I have &c.,
(Sd.) S. C. BAYLEY,
Junior Secretary to the Govt. of Bengal.

* No. 522, dated the 8th instant.

Memorandum from W. GORDON YOUNG, *Esq., Commissioner of the Chittagong Division,—(No.* 517, *dated the 6th January,* 1866.)

Submitted to the Government of Bengal in continuation of this office No. 501, dated 3rd instant.

Extract paragraphs 1 *to* 9, *from a letter from the Executive Engineer, to the Superintending Engineer, South-Eastern Circle, No.* 1538, *without date.*

Para. 1.—In continuation of the telegram which I sent you late in the evening of the 16th instant, informing you of five shocks of earthquake having been felt at this station on the night of the 15th between half-past 7 and half-past 10 o'clock P. M., I have now the honor to furnish the following details respecting it for your information.

2. There is a good deal of difference of opinion as to whether the shocks came from the west or the east, and as to the kind of noise which accompanied them; some state one thing and some another, differing as to many particulars, and which, no doubt, arises from the nervousness of the parties narrating: but all agree that they were severe, and that the first shock was the severest of the five.

3. I can only state what I felt and heard myself. The first shock was very severe, and lasted for about two minutes and a half; it came from the north-west, and was preceded by a noise, like to that which a great wind would make at a distance.

4. It made a similar noise to that which one sometimes hears from a coming nor'wester, and this continued throughout the time of the first shock. There was, however, no wind blowing at the time, nor anything to speak of during the night.

5. The last four shocks were comparatively slight, and lasted not more than five seconds each, and they were accompanied by no noises of any kind.

6. Several slight shocks of earthquake have been felt every night of [since?] the 15th instant, and some during each day, but they are nothing worth mentioning, and cannot do any harm.

7. All the pucca buildings in the station have been more or less shaken and cracked and injured: more especially so, those buildings which lie east and west.

8. The following are the public buildings which have been injured

and cracked severely, and to which considerable repairs will have to be done:—The Episcopal Church; the old Salt Office, a two-storied building now occupied by the Police; the Magistrate's Cutcherry; the Judge's Cutcherry, and the Circuit House.

9. The public buildings that have been slightly injured are—the Commissioner's Cutchery, Custom House, Jail buildings, School, and Military Hospital.

Memorandum from R. PEREIRA, *Esq., Assistant to the Commissioner of the Chittagong Division,—(No.* 522, *dated the* 8*th January* 1866.)

In the temporary absence of the Commissioner from head-quarters, the undersigned begs to submit, for the information of the Hon'ble the Lieutenant-Governor of Bengal, copy of the following report from the Collector and Magistrate of Chittagong in continuation of this office [Memo.] No. 517, dated the 6th instant.

From A. SMITH, *Esq., Magistrate and Collector of Chittagong, to the Commissioner of the Chittagong Division,—(No.* 1472, *dated the* 6*th January*, 1866.)

SIR,—In continuation of my No. 1443 of 29th December, 1865, I have the honor to report the occurrence of another slight earthquake at 4-20 A. M. this morning."

Mr. Blanford stated that he had examined the sand under the microscope, and that it appeared to be ordinary river sand. There was nothing of a volcanic character in it, nor did it appear that a chemical analysis would throw any important light on its origin. It had, no doubt, been washed up from the lower part of the alluvial formation.

7. From Babu Rajendra Mullick, specimens of a *Paephagus Grunniens* (yâk).

A *Nasua Rufa* (Coaiti Mondi).

A *Ceriornis Satyra (Tragopan).*

A *Anser Indicus* (bare-headed goose).

A *Psittacus Erythacus* (Grey African Parrot).

8. From A. Grote, Esq., a skeleton of an Alderney Bull.

9. From Major B. Macbean, a specimen of an Up-country Bull.

E C. Bayley, Esq. exhibited, on the part of Dr. Fayrer, two Knives used in human sacrifices in Central India.

The Council submitted a recommendation that Emil Von Schlagint-

weit, Esq and the Rev. M. A. Sherring, be elected corresponding members of the Society.

The Council reported that they had nominated the following gentlemen to serve in the several Committees in the ensuing year.

LIST FOR 1866.

Finance.

Lieut.-Col. J. E. Gastrell.
J. Geoghegan, Esq.

Philology.

Major W. N. Lees.
A. Grote, Esq.
Báboo Jádava Krishna Sing.
H. Blochmann, Esq.
J. Geoghegan, Esq.
Moulvie Abdul Luteef Khan Bahadur.

Library.

Major W. N. Lees.
Dr. T. Anderson.
T. Oldham, Esq.
Dr. D. Boyes Smith.
W. S. Atkinson, Esq.
Dr. F. Stoliczka.

Natural History Committee.

Dr. T. Anderson.
Dr. J. Fayrer
Dr. T. C. Jerdon.
Dr. S. B. Partridge.
Dr. D. Boyes Smith
W. S. Atkinson, Esq.
W. Theobald, Esq, Jr.
A Grote, Esq.
Baboo Debendra Mullick.
Dr. F. Stoliczka.
T. Oldham, Esq.

Meteorological and Physical Science.

T. Oldham, Esq.
J. Obbard, Esq.
J. Strachey, Esq.
Lieut.-Col. J. E. Gastrell.
Capt. J. P. Basevi.
Dr. S. B. Partridge.
Dr. T. Thomson.
Lieut.-Col. J. E. T. Walker.

Coin Committee.

A Grote, Esq.
Major W. N. Lees.
Capt. F. W. Stubbs.

Committee of Papers.

All the members of the Council.

Statistical Committee.

Hon'ble G. Campbell.
J. Strachey, Esq.
Dr. J. Ewart.
C. B. Garrett, Esq.
Lieut.-Col. J E. T. Walker.

The President and the Secretaries are ex-officio members of all the Committees.

Letters from the Hon'ble A. Eden, H. Duhan, Esq., and Babu Cássi Náth Chowdhori, intimating their desire to withdraw from the Society, were recorded.

The following gentlemen, duly proposed at the last meeting, were balloted for and elected ordinary members.

N. Daly, Esq.
G. W. Hoyle, Esq.
J. H. Johnson, Esq.

The Rev. J. Cave Brown was re-elected.

The following gentlemen were named for ballot as ordinary members.

W. Irvine, Esq., B. C. S., Mozuffernugger, proposed by Mr. H. F. Blanford, seconded by Mr. E. C. Bayley.

Bábu Kadár Náth Mookerjea, proposed by Major G. B. Malleson, seconded by Mr. H F. Blanford.

Dr. J. F. Wise, Chittagong, proposed by Dr. D. B. Smith, seconded by Dr. J. Anderson.

A. P. Macdonell, Esq., proposed by Mr. W. L. Heeley, seconded by Mr. H. H. Locke.

The Hon'ble G. Campbell gave notice that at the next meeting he would move that the Punjab Government be requested to take measures for obtaining an accurate knowledge of Arián languages (other than Hindee) spoken in the territories of His Highness the Maharajah of Cashmere. He addressed the meeting as follows:—

"On a former occasion I ventured to bring to the notice of the Society an Ethnological subject, and I have been encouraged by finding that I have been the humble instrument of bringing into the field several most learned and scientific men, who are interested in the prosecution of the object to which the motion was directed, which the Society and the Council were good enough to adopt. In fact, it is now evident, that as this country, in a far greater degree than any other in the world, offers an unlimited field for ethnological observation and inquiry, and presents an infinity of varieties of almost every one of the great divisions of the human race, so also there is no lack of able and qualified men to reap this abundant harvest. I have been delighted to know that on the proposition of my friend, Dr. Fayrer, an effort is likely to be made to obtain that which I have long desired to see, a collection of living humans more interesting and more varied than any bullocks. Meantime I seek permission to call attention to another local subject of inquiry. My former motion was more especially directed to the relics of an ancient Non-Caucasian and probably pre-Caucasian race, existing in our immediate vicinity as well as throughout Central India, and I suggested that inquiry should be directed not only to language, but also to physical form and other particulars. I now wish to go to the other extreme of the human scale; to remind the Society, that as we have among us the very lowest varieties of the race, so we also have within the field of our inquiry in India the very highest varieties, the most pure and perfect Caucasian races still existing in the Indian portion of the Caucasian range; and to call attention to the fact that, while the physique of these races has attracted much

notice, their languages have been, singular to relate, almost wholly neglected; so that, we are in truth nearly ignorant of them. It is impossible to conceive any more probable key to many of the great problems involved in the growth and spread of the Arian races, than in the languages of the most pure of those races, secluded in their own mountains for hundreds and thousands of years. One at least of these tongues is not that of rude mountaineers, but the most ancient and most highly cultivated written language of one of the most ancient, most learned, most ingenious, and most imaginative people on the face of the globe,—a people, in fact, who in intellect, as in beauty are unrivalled in Asia, perhaps in the world. Yet, strange to say, of this Cashmeeree language we actually know less than the little we know of the tongues of Coles and Sontals and Sub-Himalayan savages. In the pages of Max Müller and Latham and Pritchard, these latter tribes and tongues find a place, but of the Cashmeeree language, not enough has yet been ascertained even to classify it in the roughest way —neither its class, its character, nor its affinities are to be found in those handbooks. The only very slight information published on the subject is contained in two papers in the Journal of this Society, and they are both taken from information supplied by Mahomedans of Loodianah, who, both by religion and consequent Persian education, and by very long expatriation, must have been very unsafe guides. My friend, Bábú Rajendra Lal Mitra, has promised me a note on the essence of the information to be derived from these papers, but at least it is so meagre that, as I have said, it has never been used to classify the language.

"I have lately been in Cashmere, and made many inquiries on the subject, but neither my time nor my philological qualifications were sufficient to do anything substantial. One thing is clear, viz. that the Cashmeeree is *entirely* different from Hindee. It is in no respect a mere dialect of Hindee, like the Punjabee and other immediately cognate tongues, but a totally distinct language. Though clearly in the main a Sanscritic tongue, it seemed to me more different from Hindee than either Bengalee or Maharattee, or any other language of the Northern family. Unfortunately the long predominance of Mahomedan rule, and the conversion, many hundred years since, of most of the population, has caused the supercession of the indigenous literature by Per-

sian, and the use of the Persian character for modern Cashmeeree writing. But the old characters are still in use among the Shawl-weavers, and the country, as is well known, still swarms with most learned pundits, to whom Sanscrit is as familiar as Latin to the pundits of Europe, and who are able and willing to restore to its proper character and to grammatical shape their native tongue, the more so as the country is now again under Hindoo rule. North-west of Cashmere again there is another, quite different and widely spread language, also clearly Arian. This is the language of Chilas, the Kylas, Olympus, or Heaven of the Hindoos. It is spoken by the independent mountaineers on the Hazarch Frontier, thence throughout Chilas, which is the westerly hill territory of the Maharajah of Cashmere, and in *Ghilghit*, the recent Central-Asian acquisition of the Maharajah. Some of the people in my road called it 'Dardu Gal' or the language of the Dards, and I have since noticed that Vigne alludes to it and gives it much the same limits which I have mentioned, under the name of the 'Dangree' language. There are dialects, but all the people within these limits understand one another. I got together several people from those parts, and put them through the primary words and phrases by which the affinity of a language may usually be tested. Although the Chilas tongue is a different language from the Punjabee, and the Punjabees cannot understand it, it seemed to me to be a good deal nearer to Hindee or Punjabee than the Cashmeeree. And the same remark seems to apply to all that has appeared of the languages of Chitral and Kafferistan, which are probably, I should think, nearly related to that of Chilas. Those which I have mentioned are the only unknown Arian languages. The Punjabee runs up through the hills to the frontier of Cashmere in one direction, and to that of Affghanistan in another. Even my small knowledge enabled me to ascertain that the language of the Maharajah's most northerly subjects or tributaries beyond Ghilghit is palpably Turkish, and to the East, the pretended descendants of Alexander, the Baltis of Iskardo, speak the Thibetan language which their features would lead us to expect. Chitral and Kafferistan form but a narrow strip projected along the ridge of the Caucasus, and enclosed between the Pushtoo speaking Affghans on one side, and the Persian speaking Badakshanees on the other. My present object is not directed to the Chitral and Kaffir

dialects; we have no means of acquiring an accurate knowledge of these tongues, and the nearest accessible territory is the British district of Peshawur, where both Officials and Missionaries are settled, and have devoted their best endeavours to obtain information regarding the neighbouring people and languages. I direct my remarks to the two Arian languages, those of Cashmere and Chilas, which as yet remain unknown, owing to peculiar circumstances, although the means of knowing them is easily available. They are both spoken in the territories of the Maharajah of Cashmere, whose hospitality to British travellers is great, and who gives every facility to the many who traverse the length and breadth of his dominions. But none of the country being British, and the snow closing the roads for a great part of the year, there is not, and never has been, a single British permanent resident either Official, Missionary, or any other, and not a single European has any knowledge of the indigenous languages. They are all mere summer tourists, to whom the Hindostanee and Punjabee of the Jummoo officials is amply sufficient. The native pundits, though so learned and intelligent, do not take up philology without some official guidance. Hence our ignorance in the midst of abundant means of knowledge. Usually these things are far better left to private enterprise, but under the special circumstances of this case I wish to suggest the advantage of a little official aid. The Lieutenant-Governor of the Punjab is one of ourselves, a man devoted to science: individually he is of all men the most ready to aid such objects, and I feel confident that he only requires the assurance that the object is considered one of public interest, to give it his official aid also. The Mahárájáh is, as I have said, most hospitable and most ready to assist British enterprises. The Governor of Cashmere, Dewán Kirpá Rám, is one of the most enlightened and progressive native gentleman of the age. I am confident that he would aid us. At Lahore, an Oriental University has just been started with magnificent aid from the Viceroy, and there are many Cashmeeree pundits well skilled in their own language. They are more numerous and more learned in Cashmere, where men of Chilas also are always to be found. In my small inquiries I was fortunate enough to be aided by the Dewán Kirpá Rám, and also by a most intelligent young native gentleman of high position, Pundit Rám Jeu, adopted son and

heir of the late Farmer-General of the Shawl Revenue, who, in addition to an excellent knowledge of his own language and of Sanscrit and Persian, has taught himself something of the English language and Grammar, and is alone quite capable of constructing a Cashmeeree Grammar with a little aid from an English Grammarian. In short, the means of acquiring the desired knowledge lie abundantly ready to hand. Some movement only is required to start the subject. I do not think that I can be wrong in supposing it to be of eminent importance. If anywhere is to be found the connecting link between the Sanscrit and the modern langtiages of India, it must be in the speech of the pure Brahmin population of Cashmere, for the whole population is of Brahmin race: those not converted to Mahomedanism, are still, without any exception, Brahmins': no other caste is known, and the Persian and Arabic of the Mahomedans is merely overlaid in a separate stratum as it were. If anywhere the question whether the grammatical structure of the present languages is of Sanscrit descent or of indigenous origin is to be decided, it must be by comparing it with the language of the aboriginal Arians of the long inaccessible Chilas, the Olympus to which the Hindoos still point. If anywhere farther links connecting the Arians of the East and the West are to be found, it must be among those same aboriginal Arians, still inhabiting, in an isolated position, the very seat and centre from which the race was produced: the very kernel from which the great tree sprang; and the little that we have learnt of the tongue of the unapproachable Kaffir hills, seems to suggest some almost startling affinities to the Latin. Viewing then the matter as at the same time so important and so easy, I have ventured to bring it to notice, and to submit for the consideration of the Council, whether something might not be done, in communication with the Punjab Government, towards putting upon paper the essence and structure of the Cashmeree and Chilas languages. If I am supported, I would propose to give to the movement the sanction of the Society by the following resolution, of which I now give notice for the next meeting, and which I should be happy to modify in any way that may be deemed more effectual towards the object in view.

Notice of Motion.

That the Council be requested to consider the means of obtaining a better knowledge of the languages of Cashmere and Chilas, and to

that end to solicit the aid of the Government of the Punjab and of his Highness the Maharajah of Cashmeree.

The following communications were announced :—

1. From Babu Gopee Nauth Sen, 'Abstract of hourly meteorological observations taken at Calcutta in September, 1865.'

2. From W. T. Blanford, Esq., 'Contributions to Indian Malacology, No. VI.'

3. From Capt. A. B. Melville, 'Notes on a Buddhist temple at Dob Khond in Gwalior,' with facsimiles of the inscriptions.

4. From R. Taylor, Esq., 'Notes on the physical changes at the Koen Pagoda near Madras.'

Mr. Taylor's letter was read as follows,—

"I have just returned from the Koen Pagodas, and advise you to arm any friend who may be intending a like trip, with any account of the place which may have appeared in the Society's Journal (two or three did, I think, some thirty years back), for the Gazetteer is worth little more than Murray.

"But I am not going to write archæology : the most important question about the place is, whether or not there have been great physical changes since the works there were first commenced. A writer in 1831, (I think), maintained that the sea line on this coast is perpetually advancing or receding, and that now at the point in question, the coast is encroaching on the sea. Accurately to determine this, would require minute observations carried on at all seasons for many years together; I only offer for record my own observation.

"Three points in all such cases require careful note : the time of year, the late weather (in general terms,) and the state of the tide. The N. E. monsoon on this coast has, as its first result, a very marked decrease in the width of the beach, and I believe storms at other times of the year have, to some extent, the same effect. My visit then was paid in Christmas week, during the currency of the N. E. monsoon, after no markedly stormy weather, through the Surf-flag had been flying at Madras for some days in the previous week.—The tide should have risen on the days of my visit to the Pagodas 18in., and is believed to have risen only about 10 inches; the cyclone destroyed the gauge; so more cannot be said. The times of my visit to the sea pagoda and the coast were 7 A. M. of 27th Dec., and 4-30 P. M.

of 28th Dec.; the nearest flood times at Madras were about 3 A. M on the 27th, and 4-30 P. M. on the 28th, so on the second occasion I must have been near the top of tide.

"A single group of rocks will give all the marks I can suggest. About 200 yards south of the pagoda, well within the beach line, is a small group offering many points for identification: this I believe to be the Gazetteer (the writer of 1831,) group 'half under water at high water, carved in grinning lions and tigers' heads.' (I am not sure of his exact words; this is certainly the meaning.) As the conditions of his visit are not noted, this information would be worth little, even if we knew that he had investigated these rocks as minutely as he could, and recorded his observations at once. But I am not to talk of him now. The group of which I speak (and of which I believe him to speak) is one of five rocks, two standing in shore of the other three: the southernmost of the seaward three is the largest. Its sea face is carved into an elephant's head supporting a shrine, a horse trotting up to the head from the south, some figures approaching from the north; on the back is another shrine hole, and some slight carvings of figures and a lion's head: the rock behind this is wrought into a sleeping lion. The middle one of the three seaward is a small untouched rock: the northernmost is a crag whose landward face is worked into a shrine hole within a border of grotesque masks: the fifth rock, just behind this, has no sign of human handicraft but its smoothed top. Now on my second visit the waves were just washing round them, as though they stood on the highest point such a tide could reach.

"Between these rocks and the pagoda is a pile of stones strewn on the beach as ready to the builder's hand, close to a rock, stepped as for the foundations of a small temple, over this rock every wave was dashing on my second visit in a sheet.

"The rise or fall of the coast must be *very* gradual, and probably no marked difference would be observed, at the same season, for the next 20 years: the publication of this note then would be of very little use, as it would certainly be forgotten or inaccessible as the old papers are: but every member should send to the Society such notes as he may be able to make, though the waste basket may better suit the majority than the Journal.

"*Madras, 5th Jany.*, 1866. (SD.) "R. TAYLOR."

Library.

The following are the additions made to the Library since the meeting held in September last.

Presentations.

*** *The names of Donors in Capitals.*

Political Mission to Bhootan, comprising the reports of the Hon'ble A. Eden, 1864.—The Government of Bengal.

Ceylon Plants, by R. Thwaites, Esq.—The Author.

Die Persischen and Orientalischen Handschriften der herzoglischen Bibliothek zu Gotha, by Dr. W. Bertsch, Vols. I and II.—The Author.

On the Identity of Xandrames and Krananda, by E. Thomas, Esq. —The Royal Asiatic Society of Great Britain and Ireland.

Report of the damage sustained by the Royal Botanical Gardens in the late Cyclone of the 5th October, 1864.—Dr. T. Anderson.

Notices on the life and writings of C. C. Lassen, by L. E. Bowing. —The Author.

A brief Analytical Review of the brilliant Administration of Lord Mornington, afterwards Marquis of Wellesley.—Major R. P. Anderson.

Konig Maximilian II. und die Wissenschaft.—The Royal Bav. Academy of Munich.

Die Stellung Venedigs in der Weltgeschichte.—The Same.

Ueber den Begriff der burgerlichen Gesellschaft.—The Same.

Catalogue of the Organic remains of the Echinodermata in the Museum of the Geological Survey of India.—The Government of Bengal.

A treatise on attractions, Laplace's functions and the figure of the earth, by the Venerable J. H. Pratt.—The Author.

A short practical grammar of the Thibetan Language, with special reference to the spoken dialects, by Rev. H. A. Jaeschke.—The Author.

A letter 'On the utility of the study of the Sanscrit language,' to the Hon'ble J. B. Norton.—The First Prince of Travandrum.

Iconologia, or Moral Emblems.—Major J. G. Gowan.

Address on the Language and Literature of Asia, by S. Feddon.—Bábu Ramdáss Sen.

Smithsonian Contributions to Knowledge, Vol. XIV.—The Smithsonian Institution.

Results of the Meteorological Observations of the U. States, Vol. II, Part 1.—THE SAME.

Annual report of the Trustees of the Museum of Comparative Zoology.—THE DIRECTOR OF THE MUSEUM.

An account of the Base Observations made at the Kew Observatory, with the Pendulums to be used in the Indian Trigonometrical Survey, by B. Stewart.—COL. J. E. T. WALKER.

Proceedings of the Zoological Society of London, Illustrations for the years 1861, 1862, 1863 and 1864.—THE SOCIETY.

Cours d'Hindustani, by M. Garcin de Tassy.—THE AUTHOR.

Indische Alterthumskunde, by Ch. Lassen, Vol. I.—THE AUTHOR.

Five hundred questions on the Social condition of the Natives of India, by Rev. J. Long.—THE AUTHOR.

General Report on the Tipperah District, by J. F. Browne.—THE AUTHOR.

Meteorological Observations for the North Western Provinces, by Dr. M. Thomson.—THE AUTHOR.

The Punjab Chiefs, by L. H. Griffin, Esq.—THE AUTHOR.

Indische Studien, by Dr. A. Weber, Vol. IX.—THE AUTHOR.

Annals of Indian Administration, Vol. IX, Parts 1 to 4.—THE BENGAL GOVERNMENT.

Journal of the Statistical Society of London, Vol. XXVIII, Part 3.—THE SOCIETY.

Journal of the Agri-Horticultural Society of India, Vol. XIV, Part I. with a supplementary number.—THE AGRI-HORTICULTURAL SOCIETY.

Jahrbuch der Kaiserlichen Koniglichen Geologischen Reichsanstalt, Vol. XIV, No. 4.—K. K. G. REICHSANSTALT.

Proceedings of the Royal Society of London, Vol. XIV, Nos. 74 to 78.—THE ROYAL SOCIETY OF LONDON.

Rahasya Sandarbha, Vol. II, Nos. 13 to 15, and 19 to 22.—THE CALCUTTA SCHOOL-BOOK SOCIETY.

Transactions of the Linnean Society of London, Vol. XXV, Parts 1, 2.—THE LINNEAN SOCIETY.

Journal of the Proceedings of the Linnean Society viz.—

Zoology, Vol. VIII, No. 30.

Botany, Vol. VIII, Nos. 31 to 32, Vol. IX. No. 33.—THE SAME.

Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften,—Mathematisch—Natur—Wissenschaftliche Classe, Band L, Abth. I,

Nos. 1, 2; Abth. II, Nos. 1, 2; Abth. III, Nos. 1, 2; Abth. IV, V, Nos. 1, 2; Band LI, Abth. I, II, Nos. 1, 2.

Philosophisch—Historische Classe, Band XLVII, Abth, 1, 2; Band XLVIII, Abth. 1, 2.—The Imperial Academy.

The Calcutta Christian Observer, Nos. 309 to 313.—The Editor.

Philosophical Transactions of the Royal Society of London, Vol. CLIV, Part 3, and Vol. CLV, Part 1, with a list of its Fellows.—The Society.

Proceedings of the Academy of Natural Sciences of Philadelphia, Nos. 1 to 5 of 1864.—The Philadelphia Academy.

Memoirs of the Geological Survey of India, (Palæontologia Indica), Vol. III, Parts 7 to 9, Vol. IV, Part 1.—The Governments of India and Bengal, and the Superintendent of Geological Survey of India.

Report of the Committee of the Bengal Chamber of Commerce, from 1st May to 31st October, 1865.—The Bengal Chamber of Commerce.

Report (Annual) on the Administration of the Provice of Oudh for 1864-65.—The Government of Bengal.

Selections from the Records of the Madras Government, No. 85. —The Madras Government.

The Calcutta Christian Intelligencer, Vol. XXXVII, Parts 9 to 12.—The Editor.

Selections from the Records of the Bombay Government, Nos. 91, 93 and 94.—The Bombay Government.

Journal of the Royal Geographical Society of London, Vol. XXXIV. —The Society.

Journal of the Chemical Society of London, Vol. III., from April to September, 1865.—The Chemical Society of London.

Journal of Sacred Literature and Biblical Records, Nos. 15, 16.— The Editor.

Bulletin de l'Académie Impériale des Sciences de St. Petersbourg, Vol. VII, Nos. 3 to 6, Vol. VIII, Nos. 1 to 6.—The Imperial Academy of St. Petersburg.

Mémoires de l'Académie Impériale des Sciences de St. Petersbourg, Vol. VII, Nos. 1 to 9, Vol. VIII, Nos. 1 to 16.—The Same.

Proceedings of the Royal Geographical Society of London, Vol. IX, Nos. 5, 6, Vol. X, No. 1.—The Royal Geographical Society.

Report (Annual) on the Administration of the Coorg District, for 1863-64.—The Bengal Government.

Ditto, ditto of Mysore, for 1863-64.—The Same.

The Anthropological Review and Journal, Vol. II, No. 11.—The Anthropological Society.

Professional Papers on Indian Engineering, Vol. II, Nos. 6, 7, 8, and Vol. III, No. 9.—Major F. G. Medley.

Quarterly Journal of the Geological Society of London, Vol. XXI, Nos. 81 to 84.—The Society.

Report (Annual) of the Insane Asylums in Bengal, for 1864.—The Bengal Government.

Zeitschrift der Deutschen Morgenlandischen Gesellschaft, Vol. XIX, Nos. 3, 4.—The Society.

Report on the Survey Operations of the Lower Provinces of Bengal, for 1863-64.—The Bengal Government.

Selections from the Records of the Government of the N. W. Provinces, No. XLIII, Vol. I. n. s.—The Government of the N. W. Provinces.

Memoirs of the Royal Astronomical Society, Vol. XXXIII.—The Royal Astronomical Society of London.

Mémoires de l'Académie Impériale des Sciences, Belles-lettres et Arts de Lyons—Classe de Science, Vol XIII.—The Imperial Academy of Lyons.

Annales des Sciences Physiques et d'Industrie de Lyon, Vol. VII. —The Same.

Proceedings of the Royal Society of Edinburgh, Vol. V, No. 65.—The Society.

Monatsberichte der Koniglich Preussischen Akademie der Wissenschaften zu Berlin, for 1864.—The Academy of Berlin.

Abhandlungen der K. B. Akademie der Wissenschaften.—Historische Classe, Vol. IX, Part 2, Vol. X, Part 2.—The Academy of Munich.

The Agra Law Journal, Vol. II, Nos. 18 to 24.—The Compiler.

The Publications of the Scientific Society of Allyghur, Nos. 6 to 8.—The Society.

Report on the Administration of the Hyderabad Assigned Districts, for 1864-65.—The Bengal Government

Report on the Administration of the N. W. Provinces, for 1864-65. —THE BENGAL GOVERNMENT.

Report on the Administration of the Punjaub Territories, for 1864-65.—THE SAME.

Report on the Jails of the Bombay Presidency, for 1862.—THE SAME.

Report on the Operations of the Post Offices of India, for 1863-64 and 1864-65 —THE SAME.

Transactions of the Royal Society of Edinburgh, Vol. XXIV. Part 1.—THE SOCIETY.

Selections from the Records of the Government of India, (Foreign Department), Nos 46 and 49.—THE GOVERNMENT OF INDIA.

Report of the Superintendent of the Coasts Survey, for 1862.— THE SUPERINTENDENT U. S. COASTS SURVEY.

Report (Annual) of the Board of Regents of the Smithsonian Institute, for 1863. —THE INSTITUTE.

Report (Annual) on the Administration of the Bombay Presidency, for 1864-65. —THE BENGAL GOVERNMENT.

Narrative of the Course of Legislation, for 1864-65.—THE SAME.

Report on the Administration of the Province of British Burmah, for 1864-65.—THE SAME.

Report of the Proceedings of the Government of India (Public Works Department,) for 1862-63.—THE SAME.

Report (Annual) of the Geological Survey of India and of the Museum of Geology, for 1864-65.—THE SAME.

Report (Annual) on the Administration of Straits Settlements, for 1864-65 —THE SAME.

Bulletin de l'Académie Impériale des Sciences, Belles-lettres et Arts de Lyons, for January, 1865.—THE ACADEMY OF LYONS.

Proceedings of the Portland Society of Natural History, Vol. I, Part 1.—THE SOCIETY.

Transactions of the Zoological Society of London, Vol. V, Parts 3, 4.—THE SOCIETY.

Transactions of the Grant College Medical Society, No. 1.—THE SOCIETY.

Journal of the Bombay Branch of the Royal Asiatic Society, Vol. VII, No. 22.—THE BRANCH R. A SOCIETY OF BOMBAY.

Exchanges.

The Athenæum from July to November, 1865.

The Philosophical Magazine and Journal of Science, Vol. XXX, Nos. 201 to 205.

Purchases.

Atlas Icthyologique des Indes Orientales Neerlandaises; by M. P. Bleeker, No. 20.

Histoire Naturelle des Poissons, by A. Duméril, with an atlas.

Homonyma inter Nomina relativa Kitab-al-Ansab-al-Makdisi, by P. de Jongs.

Historia Khalifatus Omari II., Jazidi II. et Hischami, by J. de Goeje.

The Ferns of British India, being figures and descriptions of Ferns from all parts of British India, by Capt. R. H. Beddome, Parts 5 to 8.

Die Himjarische Kasideh, by Alfred von Kremer.

Essai sur l'Inégalité des Races Humaines, by A. de Gobineau, Vol. I to IV.

The Reptiles of British India, by A Gunther.

The Standard Alphabet for reducing unwritten languages and Foreign Graphic Systems, by C. R Lepsius.

Elements of Astronomy, by Sir J. F. W. Herschell.

Carnatic Chronology, by C P. Brown.

A Manual of Natural History for travellers by A Adams.

On the Phenomena of Hybridity in the Genus *Homo*, by Dr. P. Broca.

The Plurality of the Human race, by G Pouchet.

A walk across Africa, or domestic Scenes from my Nile Journal, by J. A. Grant.

Journal of the discovery of the source of the Nile, by J. H. Speke.

Ceylon Plants, by R. Thwaites.

The Siberian overland route from Peking to Petersburg, by A. Michie.

Recherches pour servir à l'Histoire Naturelle du Littoral de la France, by H. Milne-Edwards, Vol. II.

Histoire des Polypiers Coralligènes Flexibles, by J. V. F Lamouroux, Vols. I, II.

Naturgeschichte der Insecten Deutschlands, by Dr. W. F. Erichson Vols. I to IV.

Die Staphylinen-Fauna von Ostindien, by Dr. G. Kraatz.

Exposition Méthodique des Genres de l'ordre de Polypiers, by J. Lamouroux.

De Godsdienst van Zarathustra, by C. P. Tiele

Encyclopédie Méthodique, by M. M. Lamouroux, Vol. II.

Leçons sur la Physiologie et l'Anatomie comparée de l' homme et des animaux, by H. Milne-Edwards, Vol. I to VIII.

Les Origines Indo-Européennes, Vol. I and II.

Eran, das land zwischen dem Indus und Tigris, by F Spiegel.

Les Peuples de la Russie, by T. de Paul.

Elenchus Zoophytorum, by P. S. Pallas.

Exotic Butterflies, by W. C. Hewitson, Part 56.

A series of Photographs of Inscriptions in the Ancient Canarese language taken at Chittledroog, Dewangiri &c. by Major H. Dixon.

Reeve's Conchologia Iconica, Parts CCLXVIII, CCLXIX, CCL, CCLI.

Ibn-el-Athiri Chronicon quod perfectissimum inscribitur, by C. J. Tornberg.

Liber Expugnationes Regionum, by J. de Goeje, Part II.

Proceedings of the Zoological Society of London, Illustrations from the year 1848 to 1860.

Indische Alterthumskunde, by Ch. Lassen, Vol. IV.

Genera Plantarum ad Exemplaria imprimis in herbariis Kewensibus Servata Definita, by G. Bentham and J. D. Hooker, Parts I and II.

History of the Gipsies, by W. Sampson.

Systema Cerambycidarum, by J. Thomson, Vol. IV and V.

Masçoudi. Les prairies d'or, by C. B. de Meynard.

The Annals and Magazine of Natural History, Vol. XVI, Nos. 92 to 96.

Comptes Rendus de l'Académie des Sciences, Tome LXI. Nos. 1 to 21.

The Edinburgh Review, Vol. CXXII, No. 250.

Journal des Savants from July to November, 1865.

The Quarterly Review, Vol. CXVIII, No. 236.

Revue des Deux Mondes, from 15th July to 1st December, 1865.

Revue et Magasin de Zoologie, Vol. XVII, Nos. 6 to 10.

Journal American Society of Science and Arts, Vol. XXXIX, Nos. 115 to 119.

The Westminster Review, Vol. XXVIII. Nos. 5, 6 and Vol. XXIX. No. 57.

The Natural History Review, No. 20.

Numismatic Chronicle and Journal of the Numismatic Society, Vol. V, Nos. 18, 19.

Abhandlungen für die Kunde des Morgenlandes, Vol. IV, No 2.

The Ibis, a Magazine of General Ornithology, Vol. I, Nos. 3, 4.

Annalen der Physik und Chemie, Band CXXV, Stuck 1, 3, 8, 9, 10, 11, with an Index.

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR MARCH, 1866.

At a meeting of the Society held on the 7th instant,

W. L Heeley, Esq., Vice-President, in the chair,

The Proceedings of the previous meeting were read and confirmed.

The following presentations were announced—

1. From Moonshee Mahommed Hossein, Superintending Engineer's Office, Shergotty, a brick from the Temple at Buddha Gya: measuring 15·6 × 10·5 × 3·2 inches.

1. From Baboo Rájendralála Mitra, one *Felis Pardus*, L. One *Oriolus Melanocephalus*, L.

2. From Major Ford, one Gecko, two Lizards and one Snake, in spirit, from the Andamans.

3. From Baboo Rajendro Mullick, two *Bos Grunniens*, L. (Yak); and one *Dama vulgaris*, Gesner (Fallow Deer).

4. From H. F. Blanford, Esq., two *Tudora ferruginea*, Europe; two *Melanopsis Esperi*, Transylvania; two *Melanopsis thermalis*, Europe; two *Melanopsis aciculatis*, Europe; six *Nanina ligulata*, Madras; two *Cyclostoma costulatum*, Europe; two *Cyclotus corrugatus*, Jamaica; one *Rhiostoma Housei*, Siam; one *Philopotamis decussata*, Ceylon; six *Pomatias maculatum*, Europe; two *Clypeaster*, Pondicherry.

5. From Dr. J. Anderson, *Macacus radiatus; Oriolus melanocephalus; Pratincola caprata; Accipiter nisus; Euplocomus nycthemerus; Eos ornata; Lorius dimicella; Sturnus contra; Dicrurus cœrulescens; Dicrurus macrocercus; Dicrurus longicaudatus; Budytes viridis; Malacocercus Bengalensis; Cuculus varius; Fringilla Canaria; Melopsittacus undulatus; Edolius grandis; Eclectus Po-*

lychloros; Pycnonotus Jocosus; Pycnonotus atricapillus; Calliope Kamtschatkensis.

The Hon'ble G. Campbell, in accordance with the notice given at the previous meeting, then moved—

'That the Council be requested to consider the means of obtaining a better knowledge of the languages of Cashmere and Chilas, and to that end to solicit the aid of the Government of the Punjab and of His Highness the Maharajah of Cashmere.'

In introducing the motion, Mr. Campbell made the following remarks:—

I rise to submit the motion of which I have given notice for to-day, viz. that the Council be requested to consider the means of obtaining a more exact knowledge of the languages of Cashmere and Chilas, and to solicit the aid of the Government of the Punjab and of His Highness the Maharajah of Cashmere to that end. Considering the subject to be of some importance, and desiring to place it fully before the Members of the Society previous to the submission of my motion, I ventured at the last meeting to give my views in some detail, and my remarks having been embodied in the Proceedings, I need not now repeat them. In brief, I pointed out that two Arian languages of the very highest interest, and spoken in countries now easily accessible, are still unexplored; the learned and civilised language of the polished and ingenious Cashmerees; and the language of Chilas or Kylas, the traditionary source of the earliest Arian migrations and myths. The learned President, Mr. Bayley, in conversation, threw some doubt on the claim of Chilas to be the true Kylas. He mentions that in the Almorah hills, the Hindoos point to the high country north of that place as the Kylas. It may be that the word will prove to be one of broad signification as applied to these high lands, but the common understanding of the Punjab certainly seems to be, that the words Chilas and Kylas are identical, and I venture to think that this North-Western Kylas, still peopled by Arians, in a most ancient Arian country, is more likely to be the true Kylas, than a part of Thibet which, so far as we know, has never been peopled by Arians, but is the patrimony of races of the purest Thibetan stock. I suspect that the more easterly Hindoos merely point to unknown heights beyond the eternal snows. The modern Chilas is the more accessible country north-west

of Cashmere, and occupying the portion of the Caucasus between Cashmere on one hand and Chitral and Kaffiristan on the other, the country of which the great mountain of Nanga Parbat or Diarmul may be taken as the centre and distinguishing feature.

I noticed that *the* very little that is known of the language of the nearly adjoining Kaffiristan seemed to present some almost startling affinities to the Latin, and perhaps I may detain the meeting for one moment to give one or two examples of what I mean. I quote from the Rev. Mr. Trump's paper on the Kaffir language. First, take the personal pronouns:

Ei. Tu. and Se or Sega—

These seem very like Ego, Tu, and Se, while in the possessive form—

Ima, Tua, Sega—

are very like, Mea, Tua, Sua.

But the resemblance to which I would most apply the term startling is in the verb to be—

Compare	Ei	Sum	I am	with	Sum
	Tu	Sis-	Thou art		Es
	Sega	Se	He is		Est
	Ima	Simis	We are		Sumus
	We	Sik	You are		Estis
	Sega	Sin	They are		Sunt.

The slight contents of the paper do not enable us to carry the comparison much farther.

We know nothing of the Chilas language beyond the fact which I take upon myself to assert, as the result of my observation, that it is clearly an Arian tongue. Possibly it may turn out that, if the language of the Hindoo Cashmeerees is the eldest daughter of the Sanscrit, that of the Pre-Hindoo Chilasees is the mother of that language; —it may even be that it is also the mother or the elder sister of the Latin.

The neglect of the much longer known Cashmeeree, I believe to be in great part owing to a curious accident. The old Serampore Missionaries were giants in their day; they translated the Bible, or at least the New Testament, into almost every known and unknown tongue, the Cashmeeree included, and made Grammars of most of them. Of the Cashmeeree, they did not make a Grammar, but unfortunately it somehow got into print, that "Dr. Carey had published a

Cashmeeree Grammar under the title of a Grammar of the Punjabee language:" that error was circulated, the Punjabee was mistaken for Cashmeeree, and Cashmeeree is put down in all the lists as merely "A dialect of the Hindee"—a description which applies to Punjabee, but in no degree whatever to Cashmeeree.

Punjabee, though called a language, is really merely a dialect—at most it differs from Hindee as much as Lowland Scotch does from English. The pronunciation is materially different; there are some changes of letters, *e. g.*, a pure Punjabee will say instead of '*Uska*,' 'of him,' '*Usda*,' and so on; but there is no difference of structure; very many words also seem strange to a new-comer, but most of these turn out to be pure Sanscrit—for instance, instead of '*bahut acha*,' 'very good,' or '*acha bat*' a Punjabee says "*Sath Bajan.*" Whatever you say in the Punjab, the universal answer seems to be "*Sath Bajan.*" These are purely Sanscrit words, '*sath*' being 'good,' and '*bajan*' or '*vachan*' a word.

The Cashmeeree, though very Sanskrit, is in its grammar and structure, and many of its vocables, a totally different language from the Hindee or Punjabee; more different I may say than French from English, perhaps almost as different as Greek from English; and it is spoken by a wholly and essentially different people. It is evidently a much more complicated language than the Hindee. For instance, instead of the universal '*ka*,' '*ke*,' '*ko*,' there seem to be a great variety of forms of declension of the noun by inflectional affixes and changes, like the Latin and Greek, but more varied. The verbs seem also to have regular inflectional conjugations. And in none of these do I see any near resemblance to the Hindee, beyond a community of root. Many of the words are also exceedingly peculiar, and the Pundits are well aware there is a large infusion of vocables from unknown sources. In every way there is a great field for critical study. I brought down with me a good many words and phrases, but they are too imperfect to show much. I have obtained from Serampore a copy of Dr. Carey's Punjabee New Testament, but no one can now read it. That very learned and distinguished member of this Society, Babu Rajendra Lala Mitra, whose absence, on account of ill-health, I am grieved to notice, was kind enough to promise, as I before mentioned, to look over the papers on the Cashmeeree hitherto published, and to give me a note on the

subject which I now hold in my hand, and which, with the permission of the meeting, I will read. The result, I think, is fully to bear out my assertion of the extreme meagreness of our knowledge on the subject, and at the same time, of the extreme interest of the language, and the wide field for inquiry offered by it. The learned Babu's note also shows the difficulty of the task, the failure of summer tourists to do what is desired, and the necessity of some more effectual action. The fact is, that although most Indian languages have had the attention of most zealous and knowledge-loving men, who have collected many words and much information, this was for the most part done at a time, when language had not yet been elevated into a science and found to be one of the principal keys for unlocking the great problems of history. Now-a-days we require information in a somewhat different form, and of a more precise and exact character than was before thought of. This we cannot obtain in a mere casual way: some systematic effort is required. If the thing be once set in motion, I believe that ample means are available. I am not without hope that the distinguished native gentleman, whose note I am about to read, may himself visit Cashmere before long. In the Punjab there are several most learned and excellent members of this Society, and equally well qualified servants of Government. Dr. Leitner, the head of several new movements, is a host in himself. It is only required to make a beginning, and if the influence of this Society and of the local Government be used to effect so much, the rest will follow. Of the importance of the end proposed, I do not think that there can be diversity of opinion; the only question is as to the particular means, and those I hope may be devised.

Mr. Campbell then read the following note by Babu Rájendrá Lala Mitra:—

"Nearly half a century ago the learned scholar and indefatigable translator, Dr. Carey, drew the attention of European scholars to a living Sanskrit dialect till then unknown, the Kashmiri, by the publication of a translation of the Bible in that tongue. So little was it then understood, that a grammar of the Punjabi language, published soon after, was mistaken for it, and it was not till the year 1839 that any attempt was made to reduce its grammar to writing. Since then, two grammatical treatises have been published in the Journal of the Asiatic Society

on the vernacular language of the valley of Kashmir. The first is by Mr. M. P. Edgeworth of the Bengal Civil Service, who describes it as "a grammar and vocabulary of the Kashmiri Language," and states that he drew it up from the dialect of the shawl-weavers of Ludhiana, through the assistance of Meer Saif-u-deen, a respectable Syud of that place. In extent it is limited to 20 pages, of which the bulk is made up of straggling lists of words. The second is somewhat larger, and occupies about 40 pages of the Journal. It was compiled by Major R. Leech, C. B., and was intended to be only a "grammar of the Kashmiri language," but in reality it was made up of a number of vocabularies arranged under different grammatical headings. Like the first, it was drawn from the shawl weavers of Ludhiana through the intervention of a Musulman. Neither of these works is of a character to afford safe data for any useful purpose. They are avowedly founded upon the language of a small community of artisans long expatriated from their native country, and not drawn directly from the Hindus of whose language they profess to treat.

The rules they contain are meagre in the extreme; the work of Major Leech illustrates the principles of grammar by examples, but gives no rule at all; altogether they are as imperfect as grammars compiled from examples drawn through the medium of interpreters must necessarily be. Nor were their authors unaware of this, for Major Leech avowed, in his preface, that his essay "does not deserve the name of a grammar," and Mr. Edgeworth admitted his to be "necessarily very imperfect."

On the subject of orthography, Mr. Edgeworth is extremely brief; he does not give more than a dozen lines, and that only to indicate in what respects the alphabet of the Kashmiri differs from the Sanskrit. Major Leech, on the contrary, is very diffuse, and devotes no less than one-third of his essay to it. But for any practical purpose, it is as useless as the first; being made up of examples of diphthongs, triphthongs and other combinations of vowels and consonants peculiar to Kashmiri.

It is evident that the alphabet of the Kashmiri is of Sanskrit origin, and the character used in writing is a modified Punjabi or Gurmukhi, a form of the Devanagari, but there appears a most remarkable difference in their nomenclature.

The early Brahmans, with great scientific precision, named their letters after their pure literal sounds, added for the sake of pronunciation to the fundamental uncoloured vowel, instead of mixing them with different vowels and consonants at random. The superiority of this system of nomenclature is so great, that it is difficult to suppose that it would be rejected in a hurry—and yet we find the shawl-weavers converting the simple Sanskrit *a, á, i, í, u* &c. into *á dou a, acton á, yoyou ye, is-harauce, upalba wos*, &c. It would be an interesting fact to know if this be the result of that tendency in the uneducated masses to convert everything to be learned into a metrical sing-song, to assist the memory? or a deliberate attempt of the Brahmans of Kashmir to imitate the *alpha* and *beta* of the Semites?

The list of nouns given by Major Leech clearly points, like the alphabet, to a Sanskrit origin. Most of the text words, such as those expressive of near relationship or domestic animals, are purely Sanskrit; but there are some which appear most puzzling. Thus the most important word of relationship, that indicative of a father, instead of being a modification of *pitri* or *pitá* is *maül*, which bears no analogy to any Sanskrit word that I know of. The name for a child, *nichir*, is equally strange. The word daughter, *duhitá*, the young milker of the family of the early nomades, has preserved its form in all the Aryan tongues, European or Indian, which have yet been examined; but in the Kashmiri it appears in the utterly unrecognizable form of *Kud*. There are others equally inexplicable, and the question hence arises, are these the genuine Kashmiri words of the Brahmans of the valley, or pet or slang modifications of the illiterate vulgar, as the mass of shawl-weavers undoubtedly are? Nothing but a careful examination of the language of books and of the higher classes can decide this; and to do it the language should be studied in its native country, and not in an outlying colony. In the Bengali, the ordinary words for son and daughter are *chhele* and *meye*, which at once indicate the admixture of the early Indian Aryan with the aborigines of the country. Are the non-Sanskrit Kashmiri words for father, son, and daughter due to any such miscegenation? or are they the result of casual importations? A correct reply to this question would be of great importance to the ethnological inquirer.

Nor are these vocables alone peculiar in the Kashmiri: its system of inflections and conjugations, as far as may be traced in the essays under notice, are equally foreign to the Sanskrit. The nominative appears without a case mark, as it does in all the other Indian vernaculars, but the genitive takes the particle *sund* which has no analogy with any Sanskrit inflection. It changes into *hand*, *sanz*, *hanz*, *sanza*, *hanza*, *uk*, *ik*, *ich*, &c. under different circumstances, and all of them, except the last three, are entirely foreign. It should be observed, however, that Mr. Edgeworth devotes only a page and a half, and Major Leech only a page to declensions, and it would be unsafe to draw any conclusion from them as to how far the cases given by them are indicated by inflectional particles, and how far they are made up by altering the words from one part of speech to another. The neuter genitive in *uk* and *ik* looks very much as if it were an adjective and not a substantive.

Major Leech is averse to what he calls "labouriously manufactured tenses of verbs." He thinks "much labour and time would be saved and every ordinary purpose answered, if, in case of minor dialects, a vocabulary only of words and a collection of sentences actually heard spoken, were made in the Roman character." It is not to be expected, therefore, that he would be very elaborate in the paradigms of his verbs. They hereby occupy three and a half pages. But Mr. Edgeworth gives a pretty long list of verbs, and from it, it is evident, that most of the roots are derived from the Sanskrit, and that the changes they have undergone are such as are inevitable to all languages in course of time, the decay of primitive forms and sounds, and their replacement by easier forms and combinations.

The most important test word in verbs, is the verb "to be," Sanskrit *as*. It occurs with but slight variations in all Aryan languages, and is not wanting in the Kashmiri. In the form of *as*, *ach*, and *chi*, the Bengali *áchi*, it is met with very largely, and by itself would be a strong proof of the Sanskrit origin of the Kashmiri, but in this, as in declensions, further enquiry is necessary to prove in detail the analogy it bears to the Sanskrit in all its different moods and tenses.

The pronouns are all of obvious Sanskrit origin, and so are most of the leading adjectives and words indicative of number; but they

call for no further remark than that the information available in the subject is as imperfect as in the case of nouns and verbs.

I may say the same of adverbs, prepositions and conjunctions. For the purpose of analysing words, a thorough knowledge of prepositions is of the utmost importance; without it, to attempt the task is to attempt an impossibility; but of prepositions the two essays give next to nothing.

But I need not any further multiply examples. It is the furthest from my wish to find fault with Mr. Edgeworth and Major Leech. They were pioneers in an untrodden field, and as such, they deserve our thanks for what they have done, and not our reprobation for what they could not do; and in noticing their papers, my only wish is to point out what remains to be done, and the rich field that lies open to the scholar who would devote a season in the "happy valley" to the philology of that place.

Nearly a quarter of a century has elapsed, since the publication of the papers under notice, and Kashmir has been visited year after year by shoals of intelligent summer tourists, but nothing has been done to throw any new light on the language of that country, and it remains to this day as ill known to us as the trans-himalayan Aryan dialects of the Hindu Kush, or mount Kailasa. The paper of the Rev. E. Trump on the so-called Kafir language—an Aryan vernacular of the Indian Caucasus, is even more imperfect than those of Mr. Edgeworth and Major. Leech, and the vernacular of Kailása is all but unknown to us, and yet great interest is attached to the history of those languages. They stand as landmarks of the spread of the Aryan races from the plateaux of Central Asia, and as such, have a peculiar interest for the antiquarian."

Mr. Riddell thought that it was incumbent on the Society, in making such a proposition, to indicate the course which they consider should be pursued, to attain the the object in view.

Mr. Campbell said that he could hardly take upon himself to indicate the exact method to be followed—*that*, he thought, must be left to the Council as the executive of the Society. He only desired to suggest the subject to the Council, leaving it to them to follow it out by such methods as they might deem most proper. With reference to further observations

on the expediency of rendering the proposition more definite, Mr. Campbell said that if he were to suggest any practical course, it might perhaps be something like this; that the Council should try to find some qualified member of the Society willing to undertake an enquiry in Cashmere and Chilas; that, if the Punjab Government be willing to assist, some competent officer—a member of the Educational Department for instance—might be found, whose health required a change, and who, instead of remaining in enforced idleness at a hill station, might be deputed for a little time to Cashmere—that the Maharajah might be induced to associate with this gentleman a learned and progressive Pundit; and that such a trio might, in a few months, do all that we could wish. But, as he had said, all this must be left to the discretion of the Council, to whom he could not and would not for a moment pretend to dictate.

Mr. Atkinson suggested, as an improvement, that after the word Chilas, the words 'and if thought advisable' be inserted in the motion.

Mr. Campbell was quite prepared to make the alteration suggested, and moved the proposition of which he had given notice in the following form.

"That the Council be requested to consider the means of obtaining a better knowledge of the languages of Cashmere and Chilas, and, if thought advisable, to solicit the aid of the Government of the Punjab, and of His Highness the Maharajah of Cashmere to that end."

Dr. Partridge seconded the proposition. The Chairman, in putting the motion, remarked that the importance of a thorough knowledge of a new and living Arian language could not be overrated. Sufficient attention had never been paid in India to the spoken languages, and while many scholars were occupied in the study of the literary languages of India, the vast mine of wealth that lay around us in the numerous provincial languages and dialects had been neglected. He felt sure that the Society would support Mr. Campbell's resolution.

The resolution was then put and carried unanimously.

Mr. Riddell desired to express his dissent from the remark of the Chairman, that the provincial dialects had been neglected. Numerous vocabularies, &c. had been prepared, and would be found in the Society's journals and elsewhere.

Mr. Heeley explained that what he meant to express was, that those

languages and dialects had never been made the objects of scientific study. Undoubtedly steps had been taken towards the collection of materials, but the analysis which alone could be productive of useful results, had never been applied.

Mr. Campbell then addressed the meeting, as follows :—

"It may have come to the knowledge of some members of the Society, that the Council has lately taken action with the view of obtaining in connection with industrial and other exhibitions, the collection and classification of various races of man. When I suggested the collection of the crania of the aboriginal and other races of India, the then President, Mr. Grote, remarked that the individuals more immediately interested might have some not unnatural prejudice against parting with their crania. I felt that, even when the interests of science were concerned, so reasonable a prejudice must be respected, and could only hope that they would be good enough to let the Society have their skulls, when they should no longer have use for them. At the last meeting, we had ocular proof that endeavours to this end had not been wholly unsuccessful, and I understand that on a late visit to the Andamans, Dr. Smith found a mourning widow of very aboriginal persuasion, wearing her husband's skull as a sort of locket, and who, with great anxiety, concluded a bargain for the sale of it for the moderate sum of 1 rupee. Another and more immediate solution of the difficulty has, however, been suggested, viz. that the possessors of interesting skulls might be not unwilling to let us examine them, while still on their shoulders, and on the proposition of Dr. Fayrer the Council have taken up the subject, and hope to bring about arrangements of the kind on a large scale. I believe that Dr. Fayrer is entirely right: that we are greatly indebted to him for bringing the matter before the Council; and that in many ways the study of the human features and characteristics in living specimens will be above all things interesting and advantageous. I have long thought so, and I was much struck by seeing men of most interesting and curious races carrying things down to the Punjab Exhibition two or three years ago; the men, who were *not* to be exhibited, seemed to me much more curious than the things they were taking to exhibit, and at the time I ventured to suggest that the men also might be exhibited, but it was then too late. I will not now detain the meeting by any details. I will only say that I understand

the project to be, to try, in the first instance, to obtain a sort of exhibition or congress of the local races found in and near Bengal and other provinces, on the occasion of Local Industrial Exhibitions; and the eventual hope is, that the way being thus prepared, we may at some not very distant day have in Calcutta a great ethnological congress of all the races of India in its widest sense; in fact of all Southern Asia and the Archipelago, a congress of such a character that many of the Savants and accomplished men of Europe may not improbably be induced to take a part in it. I think it most desirable that the proposition should be made known to the members of the Society at large, and to the public, with whose support I trust that it will be worked out: also that the Council should be supported in the matter by the vote of a general meeting. I hope therefore, that the Council will think it proper to read the correpondence at the next meeting, that the meeting will sanction what has been done, and that the subject will be found to be one of great general interest. With this object, I beg to give notice of the following motions at the next meeting on the first Wednesday of April.

"1. That the correspondence and proceedings of the Council regarding the proposed ethnological gathering be read.

"2. That the Society approve of the action of the Council in the matter.

"3. That a copy of the Proceedings be communicated to the Punjab Government, with the expression of a hope, that it also will take an early opportunity of collecting and comparing specimens of the various very interesting and highly developed races in and about its territory, as a measure preliminary to a more general ethnological congress."

Mr Waldie remarked on the specimen of a Candle and Ear-rings from Burmah, presented to the Society at its meeting in January by S. Avdall, Esq.

"I have examined the samples of a Burmese candle and ear ring which was presented to the Society by the Rev. Mr. Long at the January meeting, and find that they are, as I then suggested, composed of Paraffin or the solid hydrocarbon which is found in the Petroleum of Rangoon and other places. These petroleums agree in their general characters with the oils obtained by the *slow* distillation of coal and bituminous shales, in contradistinction to the tarry products obtained by

the quick distillation of coal for illuminating gas. They are found in many quarters of the globe,—in Burmah, on the shores of the Caspian, in North America, and in numerous other places, and consist of a mixture of many oily compounds varying in degrees of fluidity and volatility as also in their relation to chemical agents. Certain of them can be removed by the action of strong acids and alkalies, which form coagula in solutions: the matter remaining is composed of a mixture of oily substances, compounds of Carbon and Hydrogen, all of pretty nearly the same composition, but of different degrees of density and volatility. When distilled, the lighter and more volatile portions come over first; the denser and less volatile last. If the latter portions be exposed to cold, a solid substance crystallizes which can be freed from the liquid oils by pressure—cold and warm—and purified by chemical processes. This solid substance is the Paraffin.

"When pure, Paraffin is a white, translucent, crystalline, brittle substance; so friable indeed, that it can be powdered even in this climate. In these respects, it differs considerably from wax, of which these ear rings and candle were at first supposed to be composed; as also by fusing at a somewhat lower temperature. The most striking point of difference is the absence of plasticity in Paraffin, a property which renders bees-wax so valuable.

"In a scientific point of view, the subject of greatest interest, connected with these substances, is their origin. Application was made to Mr. Avdall, who presented them, through Mr. Long, but no information could be obtained on the point in question. But, as I stated at the time, I had examined specimens of a similar material which had been found in the surface of the ground in some parts of Burmah; and there can be little doubt that the Paraffin had been separated from the petroleum by the slow operation of heat, atmospheric oxygen and water, and possibly some constituents of the soil, affording another instance amongst a host of others, in which the changes which are effected by the Chemist in the laboratory or in the factory by powerful agents, in hours or days, are brought about by nature by the operation of the feeblest chemical agencies extended over years or centuries."

Letters were read—

1. From Babu Rakhal Doss Haldar, Deputy Collector, Manbhoom, Purulia, through Col. Dalton, two letters on some old temples near the Barakar river.

The following is an abstract.

The temples (four in number) are situated on a rock close by the spot where the Grand Trunk Road crosses the Barakar river. They are surrounded by ruins which indicate that the site was that of a large monastery. The courts were at one time all paved with stone, and the temples were highly ornamented, and contained stone figures of great beauty. On the right hand side of the entrance of the most modern looking of the temples, there are two inscriptions. One of them, in the old Bengali character, dated Wednesday, the 8th of the wane in the month of Phálguna, Saka year 1383=A. D. 1459, records the dedication of a number of idols by one Haripriya, the favourite wife of a king.

Although the inscription gives no clue to the sect of the dedicator, her name (the beloved of Hari), the subject of the dedication (a number of gods), and the allusion to Haris Chandra and future rewards, leave no doubt of its being a Hindu record.

The following are its transcript and translation.

Transcript.

শাকে নেত্রবসুত্রিচন্দ্রগণিতে পুণ্যে বুধাহেঽতিথা-
বষ্টম্যাং কৃচিরং প্রতিষ্ঠিতবতী পক্ষে সিতে ফাল্গুনে।
ঐশং দেবকুলং যথাবিধি হরিশ্চন্দ্রশ্চ ভূরিপ্রিয়ো
ভূশক্রস্য হরিপ্রিয়া প্রিয়তমা উর্ব্বং ফলপ্রাপ্তয়ে ॥

Translation.

On a fortunate Wednesday, the 8th of the wane, in the month of Phálguna, in the Saka year 1383, Haripriya, the favourite of the most beautiful (*Bhurisri*) lord of the earth (king, *Bhusakra*) with a view to obtain rewards in a future world, handsomely consecrated a number of divine images even as Harischandra did (of yore).

2.—From Col. R. C. Tytler, describing a specimen of *Vultur monachus*.

Umballa, 3rd March, 1866.

"MY DEAR GROTE,—I have this moment, or rather an hour ago, shot a splendid specimen of that rare and noble bird the *Vultur monachus*. Although the bird figures in museums, little or nothing seems to be known of it, further than what dried skins can give: I have been watching those I have seen very closely, so I send you an account for publication. For there can be no doubt but that many will be interested in the little I have to say.

"I have always found this bird a very rare species: the first I ever saw wild, were two in the Punjab, in November, 1842. They were sitting in the centre of a large field, and it was quite impossible to approach them: I again fell in with another pair at Oorai near Cawnpore in December, 1855: they were feeding on the carcass of a dead bullock, along with two or three *Gyps Fulvus*, and numbers of *Gyps Bengalensis*, *G. Indicus* and *Atagyps Calvus*; the smaller vultures shewed no signs of alarm at the huge appearance of the *Monachus*; but I remarked that the latter were in the centre of the group of vultures, and had evidently the masterly choice of position on the carcass. I had only No. 8 shot in my gun, and the nearest I could approach them was at a distance of about 80 or 90 yards; so that although I fired, it proved perfectly useless. The birds scarcely seemed to feel it, for they flew lazily away, and gradually ascended to a tremendous height, describing circles in their ascent, till they were almost out of sight, and I saw nothing more of them, or of any more till in December, 1865, at Umballa, when I was driving to the City from Cantonments, and my son Frank, who was sitting beside me, drew my attention to two large vultures, surrounded by smaller vultures, on the carcass of a horse. We immediately drove up to the place, and I again saw this rare bird. There were three of them; and they allowed us to approach with the Dog cart, as I had no gun with me, to within 80 yards, and then flew lazily away, and describing circles, ascended to an incredible height. A few days afterwards, I saw three more flying in company with other vultures, but far too high for a shot. This morning, the 3rd March, 1866, I had just returned from shooting, when I found a note waiting for me from Dr. Scott, medical store-keeper, saying he had just seen two of these birds, feeding, with other vultures, on the carcass of a horse; and described the place so well, that although I was very tired, I at once started for the spot, and then I had the satisfaction of again seeing three of these noble vultures, not near the carcass of the horse, but at some distance from it, seated on a sand hillock along with other vultures. I approached as cautiously as I could: the position was a most exposed one, and I had a good opportunity for observing these monsters. At first they were about ten yards apart from each other, but when my presence slightly alarmed them, the largest walked towards the other, and both then raised themselves to their full height;

and certainly they possessed a most striking appearance. They now put their bills together, which they clattered for a short time, apparently as if inclined to bite each other. I now approached within 80 yards, and as my gun was loaded with large shot, I fired at the largest. He was struck beyond all doubt, but both flew away in a most lazy unconcerned manner, and after flying about 100 yards, settled on the sandy plain, near a few sand hillocks. I again loaded, and cautiously approached the spot, concealing myself behind the hillocks till within 80 yards; when I again selected the largest, and fired both barrels into it, but apparently without any more effect than the last shot, and both flew away in a most unconcerned manner. But when at a distance of about 500 yards, one suddenly fell down dead, and I succeeded in getting this truly noble bird and examining a fresh killed specimen. It weighs 17 lbs.—extent of wings from tip to tip 8 feet 2 inches—length, including bill and tail, 3 feet 7 inches—wing 2 feet 9 inches—head and bill 6¾ inches—tarsus 5¼ inches—middle toe, including claw, 6 inches—middle claw 1½ inches: the tarsus is clothed in front with feathers to within 1½ inches of claws. Claws black—feet and nude skin about the head and neck: livid white, cere livid white—upper mandible dark brown—under lighter brown—head covered with downy feathers in front and top to beyond the eyes dark brown—back of the head covered with light brown downy feathers. Chin and upper part of throat covered with dark brown downy feathers, as well as the cheeks—the entire neck, eyebrows and region of ears, devoid of feathers, and the skin of a livid white; length of tail 1 foot 7 inches; round the body and wings 3 feet, general colour very dark brown.

"When flying, the *Vultur monachus* can easily be distinguished from other vultures, as no white is visible, and the tail looks very rounded. *Gyps Bengalensis* shews white in the adult bird under the wing, and the young bird shews traces of white. In *Atagyps Calvus* two white patches are visible near the breast: the other vultures are light brown, and their face is easily distinguished."

The Council recommended, on the report of the Philological Committee, to publish the Yog Aphorisms of Patunjul, in the Sanscrit series of the Bibliotheca Indica.

The Council recommended that the Rev. J. Long be elected a member of the Philological Committee.

The following gentlemen duly proposed at the last meeting were balloted for, and elected as ordinary members.

W. Irvine, Esq.

Bábu Kadar Náth Mookerjee.

Dr. J. F. Wise.

A. P. Macdonell, Esq.

And as Corresponding Members.

The Rev. M. A. Sherring.

Professor E. von Schlagintweit.

The following gentlemen were named for ballot for the next meeting as ordinary members.

H. C. Broderick, Esq., M. D, Surgeon, 1st Regiment, Central India Horse, Augur.

Proposed by Mr. H. B. Medlicott, seconded by Mr. H. F. Blanford.

— Henry, Esq., Belgian Consul.

Proposed by Mr. W. L. Heeley, seconded by Mr. H. F. Blanford.

The receipt of the following communications was announced.

1. From Baboo Gopee Nath Sen, Abstract of the Hourly Meteorological Observations taken at Calcutta in October and November, 1865.

2. From the Government of India (Public Works Department,) the Archæological survey report of the Government of India, for 1864-65.

3. From E. B. Harris, Esq. C. S., through T Oldham, Esq.

A list of things discovered in the new excavations at Sultangunge, up to November 1865, with two maps.

4. From E. Thomas, Esq. The Initial Coinage of Bengal.

5. From Dr. A. Sprenger, Remarks on Barbir de Maynard's edition of Ibn Khordadbe, and on the Land tax of the Empire of the Khalyfs.

6. From C. Horne, Esq. Notes on the three villages (Anjimmi, Kareengunge and Takoora), on the cross road leading to Etah; with rough sketches.

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR APRIL, 1866.

The monthly General Meeting of the Asiatic Society of Bengal was held on Wednesday, the 4th instant.

Babú Rájendra Lála Mitra, senior Member, in the chair.

The proceedings of the last meeting were read and confirmed.

Presentations were announced :—

1. From H. F. Blanford, Esq., a copy of the "Pre-historic man" a lecture delivered by him at the Dalhousie Institute, Calcutta.

2. From J. Murdoch, Esq., a copy of a classified Catalogue of Tamil printed books, compiled by him.

3. From M. Lloyd, Esq., Tounghoo, a packet of specimens of indigenous tea, supposed to be the same as the Chinese plant.

The following letter and enclosure which accompanied the donation were read.

To the Secretary Asiatic Society, Calcutta.

DEAR SIR,—I have the pleasure to inform you that I have despatched to your address a packet containing leaves of, I think, the China Tea plant.

During a trip over the Karen hills, east of and 30 miles from Tounghoo, I encamped in a valley called in Burmese "Lekpet Aing" or the "tea lake." On the hills about this valley I found the tea on an elevation of from 3000 to 4000 feet above sea level. I forward an extract from my official journal.

You will observe from my journal, I note that the leaf answers the description given of the tea leaf. The plantation, (it appears the trees were originally planted, see my journal,) has now become a wilderness, the bushes have become trees, some 30 to 40 feet high.

The Karens cut down hundreds of these trees annually to make room for their rice clearings.

The spot is distant from Tounghoo 34 miles. A good supply of water all the year round. Small quantities of ice can be collected in December and January: road easy for elephants and bullocks.

If the specimens forwarded are not sufficient to enable an opinion to be formed as to the value of the plant, kindly let me know how a fresh lot should be prepared before despatch.

March 3rd, 1866.

Yours faithfully,

M. LLOYD,

Deputy Commissioner, Tounghoo.

Extract from the Deputy Commissioner of Tounghoo's Journal, on his visit to the Gyeikki country.

"After crossing the Dha Thoay Kyouk mountain, the road is almost a continued descent; here and there a small but abrupt hill has to be passed over. After travelling between 5 and 6 miles, the Tha Kho Creek is crossed, a small stream which runs into the Toukyagat, whose course is east of the "Dha Thoay Kyouk" mountain. The road then passed into a valley known as Lek Pet Aing. This valley runs almost north and south, two miles in length, with an average breadth of 250 yards; the valley is sorrounded by a small range of hills: whichever way the eye is turned, on these hills the tea plant is to be found in abundance. A small colony of Shans settled here last year, with a view to prepare this tea for the Tounghoo markets: the colony consisted of about 50 souls, but 30 died of fever during the rains; which drove those who were spared away. The Shans pronounced the tea plant a little inferior to the same plant found in abundance in the Shan States, but stated that, with proper cultivation, it could be greatly improved.

"The hills all about are covered with tea trees. I saw some between 30 and 40 feet high. The leaves of this tree are alternate, and have, what I have read of as peculiar to the leaf, viz. a leathery feeling and a marking with transparent spots. On making enquiries as to the origin of the trees, I am informed that between 200 and 300 years ago a Shan Tsawbwa, by name "Tonng ba loo," built a large town near Lekpet-Aing," and planted tea trees, but the Tsawbwa was not allowed

to remain long, as the Burmese attacked his people, and broke up the settlement."

4. From A. H. Blechynden, Esq., Secretary Agri-Horticultural Society, three packets of wood obtained in digging a well at Ballygunge.

Mr. Blanford observed that the specimens on the table were evidently similar in character to those which he had described in a note on a tank-section at Sealdah, published in the thirty-third volume of the Society's Journal. These had been pronounced by Dr. T. Anderson to be specimens of Sundri, and had been obtained at depths of from 20 to 30 feet, from stumps of trees with the roots attached *in situ*. In the paper referred to, he had endeavoured to show that their occurrence at this and similar depths appeared to obtain over a very large part of the Gangetic delta; and that it could only be explained by assuming that a general subsidence of the delta to a depth of 18 or 20 feet had taken place since the trees grew on a former land surface.

Dr. J. Anderson reported that the following specimens were added to the Museum during the month of March, 1866.

Presentations.

From Dr. J. Anderson, one *Vipera Russellii*, one *Cobra*, one *Sus Andamanensis*, one *Gyps Bengalensis*, one *Oriolus Melanocephalus*, one *Pteropus Edwardsii*, one *Lutra Nair*.

Through Dr. J. Anderson, a collection of snakes, lizards and crustacea from the Andaman Islands.

From W. S. Atkinson, Esq. 1 Nest of *Nectarinia Nipalensis* and of a *Nectarinia sp.?*

From J. A. Cockburn, Esq. 1 *Python molurus*.

From J. Obbard, Esq. 3 Marine boring Annelids taken from the timbers of a ship.

The Hon'ble Mr. Campbell moved, in accordance with the notice given at the last meeting:

"That the correspondence and proceedings of the Council, regarding the proposed ethnological gathering, be read." The motion having been put and carried, the Secretary read the following correspondence.

From J. Fayrer, Esq., M. D.,

Professor of Surgery in the Medical College.

To J. Anderson, Esq., M. D.,

Natural History Secretary, Asiatic Society, Bengal.

"My dear Sir,—I shall feel obliged by your submitting the follow-

ing suggestion to the Council of the Asiatic Society for consideration, and I hope, adoption, and elaboration.

"The project may, at first, seem rather a startling one, but, on reflection, I believe it will be admitted that, were it carried out in a liberal spirit, much benefit might result to Science, and light be thrown on many obscure points in the natural history and affinities of the various sections of the human race.

"A circular has recently been issued by the Society, requesting all who are in a position to do so, to contribute Crania, with a view to the illustration of the Ethnology of India, and indeed of the world. But, valuable as such contributions might be, I think they would fall short of the advantages to be derived by anthropological science from a study of the races themselves in life.

"I would propose, therefore, that the aid of Government be sought, in conjunction with the Asiatic Society, in bringing together in one great ethnological exhibition, typical examples of the races of the old world, and that they should be made the subject of scientific study when so collected.

"Calcutta is peculiarly situated for the easy and rapid accomplishment of this project, and, with a little aid and support from Government and its officers, there can be no doubt that it might, after due notice, be easily carried out.

"The vast variety of tribes of the human race that might thus be assembled, would offer an opportunity of studying their natural history and peculiarities, that has never yet been realized.

"Such a gathering might well take place after the fashion of the late Exhibition, at Alipore, of the lower animals and the products of the country.

"The object here proposed surely has not less interest, for it is not merely in its scientific aspect that it merits consideration.

"It is not necessary now to enter into details; the general proposition is all I need desire to place before the Society. Should it meet with support from the Council, I should be happy to aid in devising a detailed plan as to the extent of the aid we should seek from Government and the public.

"Knowing the deep interest you take in this subject, I feel sure that you will agree with me in the general proposition. I therefore leave

it to you to commend it to the Council, with such support or alteration as you may deem expedient."

Yours sincerely,

Calcutta, 16th December, 1865. J. FAYRER.

Extract from the Proceedings of the Council under date the 2nd February, 1866.

"Read the minutes of the Council on Dr. Fayrer's letter, proposing that assistance be requested from the Government in collecting in an Ethnological Exhibition, typical examples of the races of the Old World, that they be made the subject of study when collected.

"Referred for report to a Committee consisting of Dr. Fayrer, A. Grote, Esq., Dr. D. Boyes Smith, W. L. Heeley, Esq., Dr. John Anderson, and Dr. S. B. Partridge; with power to add to their number."

No. 139.

From JOHN ANDERSON, ESQ., M. D.,
Natural History Secretary, Asiatic Society.

To E. C. BAYLEY, ESQ.,
Secretary to the Govt. of India, Home Department.

Asiatic Society's Rooms, Calcutta, 8th March, 1866.

"SIR,—With reference to the annexed letter from Dr. J. Fayrer to the Natural History Secretary of the Asiatic Society, I have the honor to inform you, that the Council of the Society have considered the proposition embodied in the letter, and, I am requested to say, it has received their cordial support.

"The Council were unanimous in regarding the proposition as one highly calculated to advance the science of ethnology, and they believe it to contain a recognition of the only method by which many of the historical, philological and anatomical facts of the science will be rightly understood. I am, therefore, directed to request, in the hope that the proposal will meet with the approval and support of Government, that the claims of Dr. Fayrer's admirable and original proposition may be submitted for the consideration of His Excellency the Governor-General in Council.

"In the proposition, as it originally stands, it is intended to bring together in congress, typical examples of all the races of man found scattered throughout the Asiatic Continent and the Pacific Archipelago, and in no other part of the world does man present such a diversity of

physical, linguistic and social characters :—characters, however, which, as yet, are meaningless and unconnected.

"Human history and tradition, and all the facts bearing on the history of the domestication of the lower animals, point to the above geographical area as the first residence of primæval man; the enlarged study, therefore, of recent man in the area becomes one of surpassing importance.

"The Council are of opinion that one great reason why the Science of Ethnology has not progressed in a ratio corresponding with that which in past years has characterized the advance of other and cognate sciences, is due to the fact that the Natural History method has never as yet been applied to the elucidation of the various phenomena which ethnology offers for our observation and research. They believe that Dr. Fayrer's proposition is based upon an appreciation of this great want, and they feel convinced, if the method which he has propounded for meeting it, is carried out in an enlightened spirit and countenanced by the support of a liberal Government, that Ethnology will enter upon a brilliant career of discovery.

"It is proposed to bring together typical examples of each race, and to make them the subject of careful and scientific description. Every physical character will be carefully noted and registered by means of photographs and by plaster of Paris casts, and the type of each spoken language will be determined, and the prominent social customs of each tribe will be described; and by applying the comparative system or true natural history method, an attempt will be made to determine their affinities.

"The Council have the honor to suggest that the proposed Ethnological Congress would form a fitting adjunct to the General Industrial Exhibition for 1869-70, which the Governor-General in Council has recommended for the sanction of Her Majesty's Government. On such an occasion, Calcutta, owing to its geographical proposition, will be thronged with the specimens of many Indian and Asiatic tribes and races; and the Council are of opinion, that if the opportunity be fully taken advantage of, little difficulty will be experienced in illustrating the Ethnology of the whole of the area to which I have alluded, and in bringing together nearly all the persistent modifications of the human race.

"The Council are fully impressed with the importance of the many and intricate details which will have to be considered before the scheme is fully matured, whilst they appreciate the many difficulties which suggest themselves: still they are satisfied that the scheme is one which can be matured, if the Government of India will give it their countenance and support.

"As a preliminary step to the further maturing of the scheme, I am desired to suggest that a detailed statement of the various races found in India be called for from each Government. The Council believe that such a list would be of great interest, and prove a valuable aid to the study of Ethnology.

"If the sanction of Government is given to Dr. J. Fayrer's proposal, and the Council's suggestion that the Congress should form a part of the General Industrial Exhibition for 1869-70 is approved, it will be necessary ultimately to interest the services of the French, Russian, Chinese, Spanish and Dutch Governments, with the view of obtaining examples of the various tribes found in their Asiatic territories, and from the interest which the majority of these Governments have always manifested in the progress of science, the Council feel confident that the proposed Congress will meet with their cordial support.

"Knowing that the Government of India has always, in the past, lent aid to any scheme tending to spread a knowledge of the benefits of civilization and to advance learning, the Council have every assurance of the success of their proposition, and feel confident of the support of Government."

I have, &c.

(Sd.) JOHN ANDERSON, M. D.

Secretary for Natural History, Asiatic Society.

A copy of the above was also addressed to the Secretary, Government of India, Foreign Department.

No. 141.

From JOHN ANDERSON, ESQ., M. D.,

Natural History, Secretary, Asiatic Society.

To the Secretary to the Government of Bengal,

Asiatic Society's Rooms, Calcutta, 8th March, 1866.

"SIR,—I have the honor to submit for the consideration of His

Honor the Lieutenant-Governor, the accompanying letter from Dr. Fayrer to the Natural History Secretary of the Asiatic Society of Bengal, and a copy of a letter addressed by the Council of the Asiatic Society to the Foreign and Home Secretaries to the Government of India.

"I am requested by the Council to lay before you a modification of Dr. Fayrer's proposal, in the hope that it will meet with the approval of His Honor the Lieutenant-Governor. The Council believe that this modified proposition might be carried out with comparative ease during the Agricultural Exhibition at the end of the present year, and with great advantage to Anthropological Science.

"This modified proposition is not intended to interfere with or supersede the original one, which the Council fain hope will meet with the cordial support of the Government of India.

"The Council are of opinion that an Ethnological Congress of all the tribes found in Bengal, Nepal and Burmah, and in the Andaman and Nicobar islands would be one of easy accomplishment; especially at the time indicated, as examples of many of the above tribes will be drawn to Calcutta by the Agricultural Exhibition.

"If this proposal meets with the approval of the Lieutenant-Governor, the Council of the Asiatic Society have to request, with a view to further details, that His Honor will be pleased to instruct all Commissioners in Bengal to furnish official lists of all the races of men found in their respective districts, and to indicate in these lists the means at their disposal for the transport of individuals of each tribe to the Congress in Calcutta, and the probable expense of so doing.

"The Council, after a careful consideration of the whole subject, believe that this is the first step to the completion of the design, and as all the arrangements will still remain to be made for the transit of specimens of each race to Calcutta after the above returns have been supplied, the Council earnestly request that the information now called for, may be furnished not later than the end of April.

"The Council, in recommending this project for the consideration of the Lieutenant-Governor, feel certain that there can only be one opinion regarding the scientific importance of Dr. Fayrer's conception in its modified form, and of the amount and kind of knowledge it will convey to us of Indian Ethnology; and they have therefore every

confidence in submitting the proposition for the sanction of the Lieutenant-Governor, who has always manifested a keen appreciation of the benefits which result from scientific research."

I have, &c.

(Sd.) J. ANDERSON, M. D,

Natural History Secretary, Asiatic Society.

No. 1577.

From J. GEOGHEGAN, ESQ.,

Offg. Junior Secretary to the Govt. of Bengal.

To the Secretary to the Asiatic Society of Bengal.

Fort William, the 16th March, 1866.

General.

SIR,—I am directed to acknowledge the receipt of your letter, No. 141 of the 8th instant, and in reply to say that instructions have been issued to all Commissioners under the authority of the Lieutenant-Governor, for the preparation and submission of lists of all races of men found in their respective divisions. I am at the same time to point out that the Asiatic Society are mistaken in supposing that there will be a general Agricultural Exhibition held at the end of this year. It is not proposed to hold such exhibition till the cold weather of 1867-68.

I have, &c.,

(Sd.) J. GEOGHEGAN,

Offg. Junior Secy. to the Govt. of Bengal.

Mr. Campbell then addressed the meeting as follows:—"My next motion is this—

2. "That the Society approve of the action of the Council in the matter."

"You have now heard the correspondence which speaks for itself and shows you Dr. Fayrer's plan and the proceedings of the Council upon it. It is true that the whole matter is as yet in embryo, but my object in bringing it forward to-night, is the hope of enlisting, in favour of the project, the sympathies of the members of the Society in all parts of the country, and of the public at large. Nothing can come into the world full fledged, and things don't grow in the dark. I hope that by the aid of many energetic and highly-informed mem-

bers, and by enlisting in the discussion the Public and the Press, the thing may gradually take practical shape and fruit may be borne.

"I will not now address myself to the more magnificent proposal which Dr. Fayrer, with a worthy enthusiasm, hopes to realise some years hence, a great International Congress, in which the races of all Asia, Australia, and the Isles even to the farthest Pacific, may be collected together in Calcutta as a great centre, and all the Savans of Europe and America may flock here to see them. *That* may, I hope, some day be realised; but it will take time, and there are steps intermediate before arriving at that consummation. I do not wonder that at this early stage the Government of India should cautiously abstain from pledging themselves to this Congress, till the project has taken a more definite shape. Meantime they give us the assistance which we desire, by collecting information for us. Looking especially to the advantage of a practical beginning, I would submit to the meeting a few remarks regarding the humbler project, which is the subject of the letter to the Government of Bengal. It seems probable that a commencement can best be made by Local Ethnological Exhibitions on a comparatively small scale, and such as can be carried out at small expense and with machinery ready to hand. The body of scientific men in this country is not so great, nor the interest of the public in a single subject so absorbing, that a Local Ethnological Exhibition could be expected to stand alone; but it may, as the Special Committee on the subject thinks, with great advantage and interest, be combined with the Local Agricultural and Industrial Exhibitions. For a project of this kind, no place is so favourably situated as Calcutta, and no country contains a greater and more interesting variety of races than the Bengal Lieut-Governorship and its borders. If we go no further than the bazars of this city, we there find an immense assemblage of most marked tribes and races of almost every nation and every clime of Southern Asia and the Isles. And, as I think I once before remarked, if we only explore this 'maidan' at our doors, and examine the coolies working on the ditches, we may discover races more peculiar, more unknown and undescribed, more ancient, and more interesting, than in any savage and remote country in the world. The aboriginal races come down very largely for labour of this kind. I often stop and look at them, and I have tried to make something of

them, but they don't understand me; I don't understand them; and they don't seem to realise the interest of ethnological inquiries, so I have not progressed much. In brief, however, I say, that if we go no farther than our bazars and our labouring coolies, we have the materials for a large and important Ethnological Exhibition. The varieties of the race are there, but without some arrangement, classification, and means of enquiry, little can be done. The proposal really is little more than to collect and marshal good and characteristic specimens of the races ready to hand, at such time and place, and with such facilities for communication, that they can be systematically studied by those who take an interest in such matters.

"To render complete an Exhibition of this kind in Calcutta, we should hope that the Local Government would consent to bring together, at no greater expense than is now devoted to the transport of animals and goods, specimens of such races subject to it, as are not found in and about Calcutta. I will only glance at some of the races within the limits of the Province. To begin with, we have not only in Bengal but also in Behar a large portion of Hindoostan, and good samples of the Hindustani races. All or almost all the tribes and castes of Bengal and Hindustan, would be represented without any difficulty. On the western border-land, in the Chota-Nagpore Commissionership and the borders of Cuttack, we have what I can only describe as a perfect congeries of aboriginal tribes of every kind. Dravidian Gonds and Rajmahalees, the Coolie tribes, Moondales and Bhoomiges and Sontals; Bhooyas and Khonds and others yet unclassed. They are all within easy reach of Calcutta, (when not, as they are for the most part, already here,) and they have much engaged the attention of a very scientific man, Col. Dalton, the Commissioner. An exhibition of Aborigines would be the easiest thing in the world. And as they are such excellent labourers, they might be utilised as Coolies to put in order the Exhibition grounds at certain times, while at others they take their seats for the instruction of the Public.

"Then on the other side of Bengal, on the East, we have another equally extensive congeries of races of another great stem of the human family, the Mongolian and Indo-Chinese, represented in its principal branches, Thibetan, Burmese, Siamese proper, and by a vast variety of tribes, civilized and savage. Of these also, an assorted cargo

might very easily be brought down in a Steamer. A few Andamanese would give us one of the most primitive and interesting of all races. The port of Calcutta would supply Chinese and Malays, Africans, and men of the Persian Gulf and Arabia. Some interesting specimens might be obtained from Nepal and Burmah, each within a very few days' journey. Altogether, I maintain that at a very small expense, and with very easy arrangement, a very large and important Ethnological collection might be brought together at any Exhibition in Calcutta. The plan then which I would suggest, would be somewhat as follows. That an Ethnological branch should be added to the next Agricultural Exhibition, in which, without in any way degrading men and brethren to the position of animals, opportunity should be given for studying man at least to the same extent to which animals are studied; a study which, in the case of humans, should extend to language and to mental qualities, as well as to physical qualities. I would engage a suitable number of individuals of pronounced type, as Exhibitors on a suitable remuneration. I would erect a sufficient number of booths or stalls divided into compartments, like the boxes in a theatre or the shops in a bazar; I would arrange, that on certain hours, on certain days, the Exhibitors, classified according to races and tribes, should sit each in his own stall, should receive and converse with the Public, and submit to be photographed, painted, taken off in casts, and otherwise reasonably dealt with, in the interests of science. I would have each stall properly labelled with particulars of race, habitat, age, &c. of the occupants, and would provide competent interpreters to enable them to communicate with the Public. In this way I think that a commencement might be made of such a scientific study of man, as has never yet been attempted; and I believe that those who first in practice break the ice and commence work in this direction, may be the Pioneers of great movements and earn for themselves a name in history.

"I hope, I need scarcely argue, that a movement of this kind is no mere *dilettanteism*. Of all sciences, the neglected study of man is now recognised as the most important. The breeding of horses is a science; the breeding of cattle is a science; I believe that the breeding of short-horns is one of the most exciting of English occupations, but the breed of man has hitherto been allowed to multiply at hap-hazard.

Man himself should surely be the subject of a science; not only are his physical features parallel to those of the animals, and capable of a like improvement, but we know that mental qualities also are hereditary, and we may presume capable of similar improvement. From a scientific study of Man, his physique, his language, his laws, his mind and his manners, much of history, prior to written record, is brought to light; and as history repeats itself, by studying contemporaneous races in an early stage of development, we may best see man as he existed many thousand years ago. When we better understand his nature, his varieties, and the laws of his development, we may better improve him. Already great questions are pressing on the world, with which, from want of a sufficient knowledge of the creature man, we are totally unprepared to deal. The world is becoming more and more one great country; race meets race, the black with the white, the Arian with the Turanian and the Negro; and questions of miscegenation or separation are very pressing. In more than one quarter of the world the Negro is a great difficulty, and opinions regarding him are still utterly discordant. Some assert him to be not only a man and a brother, but just as good as ourselves; others assert that he is only fit for slavery. Even in these days, I find that in England, at the Anthropological Society, a bold naval officer broadly propounded that last doctrine, apparently, (if we may trust the report,) with considerable sympathy among the audience; and he even went so far as to enunciate, with reference to the late lamentable occurrences in Jamaica, that it was totally unnecessary to wait for the evidence, since, to his knowledge, the Negro is an animal so vicious, so stupid, so degraded, that it *must* have been right to shoot him down. To solve the great questions of the day, we ought to know how and how far the varieties of our race are capable of improvement; what is the effect of the intermixture of various races, and much more besides. We have here, as I said, at a point where the extremes of different races meet, and where we have them both pure, and blended in every possible degree,—we have here, I repeat unrivalled opportunities for such studies, and I trust that we shall make the most of them. I beg to move that the action of the Council in this matter be approved by the Society."

Mr. Beverley seconded the proposition; which was then put to the meeting, and carried unanimously.

Mr. Campbell then rose to propose the third resolution, of which he had given notice, and addressed the meeting to the following effect:—

"I hope we may look to see the way paved for a great Ethnological Congress, not by one only, but by many local Exhibitions. I have addressed myself more particularly to that which we may, I trust, before long have in Calcutta; but there is one other locality which I would also wish to be permitted to make the subject of a special motion, on account of its extreme importance. I allude to the Punjab. I may almost say, that if one-half of the races of mankind are to be found in Bengal, the other half may be found in and about the Punjab. At any rate not only all India, but all Asia, and a good deal besides, would be represented at the two points of Calcutta, and Lahore or Peshawur: the south and east at the one, the north and west at the other. If the varieties to be found in Bengal are perhaps more numerous and more original, on the other hand, the highest types of the human race are to be found in and near the Punjab. The farther you go towards the northwest of India, the finer and handsomer do the people become, and I have no hesitation in saying, that the very highest development of the human race, the greatest personal beauty of feature and form, is to be found in those regions; while, in point of mental acuteness also, the Cashmeree, for instance, is probably excelled by no race in the world. The people of the Punjab plains, though somewhat dark, are really as fine a race as can anywhere be seen, and in the hills immediately beyond, we have races free from any intermixture of the blood of the Southern Aborigines, (which probably more or less intermingles with most Indian races); the very purest Arians, fair, robust, high-featured, eminently handsome. Whether we European Arians have mingled with some aboriginal Esquimaux or Finns or primeval Fish-eaters of some sort, I do not know; but we cannot all be said to be remarkably beautiful, especially the labouring classes. In the hills of the Indian Caucasus, almost every coolie that you meet with a load of apples on his back, might be taken in marble as a model of the human kind. In the Punjab then, from among the various races of Punjabees of the plains and hills, the Cashmerees, the Affghans, the Chilasees and Kaffirs, the Persians and Beloochis, as well as some of the Northern Hindustanee tribes, might be collected the finest show of Arians possible in the world. Again, specimens of all

the Turkish and Mongolian tribes are readily available. That most remarkable race of Mongolian feature, Persian tongue, and remarkable energy and industry, the Hazárihs of the hills about Ghuznee, come freely to the Punjab to seek labour; and there are in those quarters many other peculiar tribes. The Turkish race reaches in fact into the territory of the Maharajah of Cashmere, and both by that route and by Cabul, Turcomans and Northern Asiatics of every degree find their way to the Punjab. There is a Thibetan population all along the north-eastern frontier of the Punjab territories, and the races of Central Asia come in freely by that route. Thus then we might have at Lahore the finest Arian races, some of the finest Turanian races, and a great variety of races blended between the two. We may look, I think, to the Lieutenant-Governor of the Punjab to encourage any good movement for the advancement of knowledge. I therefore would bring the present movement specially to his notice, by moving the following resolution :—

"3. That a copy of the Proceedings be communicated to the Punjab Government, with the expression of a hope that it also will take an early opportunity of collecting and comparing specimens of the various very interesting and highly developed races in and about its territory, as a measure preliminary to a more general Ethnological Congress."

Mr. Atkinson seconded the resolution.

In support of the motion, Mr. Beverley wished to point out that, although from the enormous variety of district frontier tribes, Bengal offered peculiar facilities for such an Exhibition, as had been proposed, still, much valuable information might be collected in the Punjab, in which direction lay the ancient Iran, the cradle of the human race. It was to be expected that we should there find important facts which would help to throw light on the earliest history of man. The degree of assistance which the Society might expect from Government in this matter, would depend, in a great measure, upon the exertions with which, in the mean time, it amassed the requisite facts and information to give interest and value to the specimens when collected. He might say, the world was looking to this society for the solution of many of the difficulties in which the early history of man was involved, and it therefore behoved each member to exert himself. There were two

aspects in which this subject might be studied, the physical relations of the various races, and their language and customs. Every one might not be competent to deal with the subject in both branches, but there were few of the Society's members, who could but take an interest in one or the other of them.

Mr. Blanford could not accept the suggestion of Mr. Beverley, that the centre from which man had radiated, was probably identical with the traditional centre of the Arian race. It is indeed unknown at what geological period the human race commenced, but the known facts of primitive ethnology indicate that man's development in his earlier stages was very slow, and he could not have made, and indeed so far as we know, did not make his appearance in Western Europe, at the close of the glacial period, until he had made very great advances, and had discovered the arts of producing fire, and of providing himself with clothing; the former especially a discovery of great difficulty and of the highest importance. But the climate of Iran was not at the present day one suited to an utterly savage race, and there is good reason to believe, judging from the observations of Dr. Hooker in the Lebanon, and of Indian Geologists on the former extension of the Himalayan glaciers, that in the later Tertiary period, it had been still less adapted to the wants of savage man. Moreover during a great part of the later Tertiary period, a sea of considerable extent had occupied much of the region of Central Asia, east of the Caspian and north of the Hindoo Kush, and had, for a long period, acted as a barrier between the faunas of S. E. Asia on the one hand, and that of Siberia and Europe on the other. Even at the present day, there is a marked distinction between these faunas. He thought that the region of the anthropoid apes, which in habits and wants most nearly resembled the undeveloped animal man, was a far more probable centre of the latter's origin, and it was noteworthy that in this and the neighbouring region of Australia, are to be found at the present day some of the lowest human types, the Negritoes and Australians. We could do little more than speculate at present, but such facts as we have, appeared rather to point to an equatorial region as the place of man's origin, than to that in which man had developed into a higher form of animal, and from which he had issued at a later period to dispossess and drive backwards the less advanced forms of his species.

Mr. Beverley, while admitting the high importance attached to geological discoveries, nevertheless doubted whether the investigations in Central Asia had been sufficiently elaborate, to warrant the conclusions drawn by the Honorary Secretary. So far, however, from his having started a *novel* idea, the theory was that which, up to the last year or two had obtained universal acceptance, and the *onus probandi* lay on those seeking to overthrow it. But there was some presumptive evidence in favour of Iran, or the parts of Central Asia thereabout, being the earliest seat of the human family. It was to that country that the earliest traditions all pointed, and the history of every country always led us back. It was from Central Asia that successive races had spread both east and west to drive on and supplant each other. In the west we had the irruptions of the Huns, the Goths and the Turks, while India itself had been frequently invaded from the north-west. Indeed it would seem as though, in the struggle for existence, the most barbarous tribes had been driven farther and farther from the common centre, and while seeking therefore for aboriginal tribes in the islands of the Pacific and other out-of-the-way corners of the world, we should nevertheless expect to find the cradle of the human family in that region, where, apart from European influences, the race had made the greatest progress in physique and civilization.

Major Norman observed that many of the Punjab regiments offered a great variety of materials for the study of the races from Central Asia. In one regiment there were a number of Siah-Posh Kafirs, in another, men from the neighbourhood of Kandahar. He thought that an exhibition of such men would be most desirable.

Mr. Campbell could bear witness to the extreme interest of the Ethnology of many of the Punjab regiments. As a member of the Statistical committee he had endeavoured to obtain a return of the various tribes represented in these regiments, with tables of the average height, weight, and character of the men. This last characteristic is especially well developed by the discipline of a regiment.

Dr. D. Boyes Smith stated that Dr. Fayrer was unavoidably absent from the present meeting, to his own great regret.

The motion was then put to the vote and carried unanimously.

The Chairman gave notice that at the next meeting the Council would move: "That this Meeting is desirous of placing on record its

appreciation of the enlightened interest in the promotion of the study of Oriental Literature, evinced by the Lieut.-Governor of the Punjab, in his late reply to the address of the founders of the proposed Oriental College at Lahore."

The following letter from E. C. Bayley, Esq., Secretary to the Government of India in the Home Department, was read :—

No. 3169.

From E. C. BAYLEY, ESQ.,
Secretary to the Government of India.

To J. ANDERSON, ESQ., M. D.,
Secretary of the Asiatic Society.
Dated, Fort William, the 31*st March*, 1866.

Home Dept., Public.

Sir,—With reference to your letter No. 172, dated the 23rd instant, I am directed to state that the "Bill to provide for the establishment of a Public Museum at Calcutta," having passed into law as Act No. XVII. of 1866, the Governor-General in Council is prepared to take over the collections of the Society, and to place them in the hands of Trustees, in conformity with the provisions of the above-mentioned Act, and with this view, His Excellency in Council requests that the Council of the Asiatic Society of Bengal will, as required by the law, nominate four Trustees as early as possible.

I have &c.,
E. C. BAYLEY,
Secy. to the Govt. of India.

Letters from C. C. Stevens, Esq. and R. L. Martin, Esq., intimating their desire to withdraw from the Society, were recorded.

The following gentlemen, duly proposed at the last meeting, were balloted for and elected ordinary members :—

H. C. Broderick, Esq., M. D.; N. A. Henry, Esq., the Belgian Consul.

The following gentlemen were named for ballot, as ordinary members, at the ensuing meeting :—

W. H. Coxe, Esq., Krishnagur College, proposed by Mr. A. Grote, seconded by Mr. H. F. Blanford.

Lieutenant B. Lovett, Kohat, proposed by Mr. H. F. Blanford, seconded by Mr. W. S. Atkinson.

Baboo Peary Chánd Mitra, proposed by Mr. W. S. Atkinson, seconded by Mr. H. F. Blanford.

Baboo Soorut Nath Mullick, Howrah, proposed by Baboo Jádava Krishna Singh, seconded by Baboo Rajendralálá Mitra.

The receipt of the following communications was announced :—

1. From Baboo Gopinath Sen, an abstract of the results of the Hourly Meteorological Observations taken at Calcutta for December, 1865.

2. From Lieutenant-Colonel R. C. Tytler, "Description of *Drymoica Verreauxii*."

3. From C. Horne, Esq, "Notes on Jusrow village and its ruins."

4. From W. Herschell, Esq., "Description of the Chandrarekha Gurh near Sashtance, Purgunnah Nyegong, Midnapore."

5. From Lieutenant-Colonel J. E. T. Walker. "The Russian geographical operations in Asia.'

6. From G. E. Ward, Esq., "Note on the existence of Buddhist remains in the Dhoon."

The Secretary read Mr. Ward's note as follows :—

"As I see that Mr. Forrest has again directed attention to the probable existence of Buddhist or other remains in the Doon, I take the liberty of writing you word of some facts which have come under my own observation, in the hope that more experienced antiquaries may be induced to examine the subject, or at all events that I may gain some hints as to any materials that may exist, for arriving at some knowledge of the Doon's past history.

"About two years ago, the proprietor of an estate at Horawala, in trenching for tea, turned up the remains of what he took to be an old palace. No coins or inscriptions were found, but a large quantity of bricks, of which some are said to have measured $24' \times 24' \times 9'$. No one being on the spot who cared for such things, the bricks were broken up, and the greater part built into a tea factory. The largest brick I could find at all perfect, measured $16\frac{1}{2} \times 16 \times 6\frac{1}{2}$, but I saw many shapeless fragments of what must have been larger bricks than this one. One fragment I measured was $15 \times 9 \times 8$. I understand that there was a mark found upon all the bricks turned up; but I found no traces of such a mark myself, and could not form a clear idea of the nature of it from what I heard. There is a mound near the

tea plantation, which, I suspect, contains more relics. Horawála is situated on the slope of the Himalayas immediately under Badráj, at a distance of about 8 or 9 miles, as the crow flies, from the Jumna, and occupies a commanding position. Separated from Horawála and its surrounding small villages by the Kot Naddi, is a lofty eminence called by the natives Dhobri, which bears a local reputation of having once been a place of some importance. Numerous fragments of bricks are washed down from it, by the torrents formed during the rains, into the Kot Naddi on the east and the Maota on the west. Both these rivers have their source in the ravines of Badraj, and for some distance run almost parallel to each other with a very small interval. The Maota, however, is united to the Gahna and takes its name for some distance before the Kot joins it, and with it forms the Sitlawala Naddi. The hill called Dhobri, which is only known to the records as part of the township of Súrna, is a long narrow and excessively steep barrier between the Kot and the Maota. Ascending from the Kot, one reaches a terrace about half way up, which is exceedingly regular in its formation, and much unlike anything I have observed in the other hills below the Himalayas. The summit is now barely a yard in width, the descent to the Maota being a tremendous precipice, though the tiny thread of water which constitutes that river, runs far away from the side. As one proceeds to the north along the summit, one meets two sudden breaks in the hill, which have every appearance of being artificial. Passing these, one can with difficulty arrive at a peak, now tenanted by birds, with precipices on three sides, and the latter of the two dykes I have mentioned on the fourth. Nothing can exceed the desolation which at present characterises the spot, yet even on this summit I found fragments of bricks similar to those I had seen all about the hill. These fragments measured 8′ in breadth by 2½ in depth, and the greatest length I saw was 9′. I must add that north of this spot and of Horawala, are the villages of Kotra and Kothi, which names, with that of the river Kot, seem to indicate the memory of some ancient citadel. The remains at Pirthipur consist of an old fort surrounded by a moat and by thorny bamboos, and a Hindu temple and some Satis; but there are traditions of an extensive city situated in what is now the Pirthipúr forest, and traces of an old aqueduct running through it. In recent times Pirthipúr was the place where

the Viceroys (Miyans) of the Náhan Raja held their court, as those of the Gurhwál Raja did at Nawáda on the Nágsiddh hill. Large bricks are found at the latter place, built in with those of a later date, the smallest I have seen; and I think it probable that both Pirthipúr and Nawáda were selected as being historical places. Besides the spots I have mentioned, the ancient remains of Santaurgarh, said to have been demolished by Akbar, the site of Kalyanpúr marked by a curious wall lined with alternate rows of brick and stone, and a hill immediately above the village of Bijepúr on the opposite side of the river Tons, are, I think, worthy of attention. At present less seems to be known of the Doon than of any other part of British India, though there can be no doubt, it has been a most populous district, and is one of the most sacred tracts of Hindu geography. The native traditions now current are various, and not easily reconcileable. Some attribute the origin of the name Doon to Drona; and the spot is pointed out near the junction of the Tons and the Jumna, (outside the Doon,) where the sage performed penance for many years. Another story is, that a Baujára whose name is not given, peopled the valley and remained unmolested for some years, through the neighbouring Rajas being unaware of the existence of the Doon. There is a spot called Gangbhewa near the Jumna, where the Ganges is said to have visited this Baujára, who was at this time unable to proceed to Hurdwar, but this tradition would seem more naturally to apply to Drona."

Dr. Anderson reported that the following specimens were purchased for the museum during March last:—

One skeleton of a Bhootea.
One *Ciconia alba*.
One *Graculus carbo*.
One *Grus Antigone*.
One *Mycteria Australia*.
One *Petradoxurus Musangus*.
One *Corvus splendens*.
One *Emplocomus albo-cristatus*.

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR MAY, 1866.

The monthly general meeting of the Asiatic Society of Bengal was held on Wednesday, the 2nd instant, at 9 P. M.

Bábu Rájendralála Mitra, senior member, in the chair.

The proceedings of the last meeting were read and confirmed.

Presentations were announced :-

1. From N. A Henry, Esq., a copy of "Racines Idiotismes Fondamentaux de la langue Turque," and "Levée des Tangouss."

2. From the Lieutenant-Governor of the North-Western Provinces :—

A specimen of the "Madar" bark fibre and specimens of thread, cord and cloth, made from the same fibre, with specimens of cloth made from the cotton, and cotton and fibre of "Madar," collected by R. Adams, Esq.

The following letter accompanied the donation :—

"*Government House, Allahabad, 5th April*, 1866.

"Dear Sir,

"At the request of the Lieutenant-Governor, I have the pleasure to forward a few specimens of manufacture from the fibre and cotton, or cotton silk of the 'Madar' plant, so common throughout these provinces.

"His Honor thinks that the specimens, together with the note on the capabilities of the plant, may perhaps prove of interest to the Society, although he believes the subject has been frequently discussed in former years.

"Yours &c.

(Signed) "H. GARDEN,

"*Private Secretary.*"

3. From the Government of Bengal, a copy of Max Müller's Rig Veda, vol. IV.

4. From Bábu Rájendra Mallik, a specimen of *Dromaius Novæ Hollandiæ*, one of *Grus antigone*, and one of *Ara areauna*.

5. From the Barrackpore Park Menagerie, a specimen of *Struthiocamelus*.

6. From Dr. John Anderson, a specimen of *Limulus rotundicauda*, Hooghly, and one of *Platanista gangetica*. The first male specimen presented to the Museum.

7. From P. Hartnell, Esq., Commander, ship "St. Bernard," a specimen of *Xiphias gladius* (swordfish) from the Bay of Bengal.

8. From Kumár Pramatha Nátha Roy of Dighaputty, through Bábu Rájendralála Mitra, a specimen of *Calcharius Milherti* from the river Ganges.

9. From Bábú Protáp Chunder Ghoshe, a specimen of *Onycho-cephalus acutus* from the streets of Calcutta.

The following gentlemen, duly proposed at the last meeting, were balloted for, and elected ordinary members :—

W. H. Coxe, Esq., Lieutenant B. Lovett, Bábu Soorut Náth Mullick, and Baboo Peary Chand Mitra.

The following gentlemen were named for ballot as ordinary members :—

R. B. Smart, Esq., Revenue Surveyor, proposed by Lieutenant-Colonel Gastrell, seconded by Mr. H. F. Blanford.

Captain J. Macdonald, Bengal Staff Corps, Nagpore, proposed by Colonel Gastrell, seconded by Mr. H. F. Blanford.

T. W. Gribble, Esq., B. C. S., Sasseram, proposed by Mr. A. Grote, seconded by Mr. H F. Blanford.

J. Sime, Esq., B. A., Professor, Doveton College, proposed by Mr. H. Blochmann, seconded by Mr. H. F. Blanford.

W. H. Bourke, Esq., Barrister-at-Law, proposed by Dr. D. B. Smith, seconded by Mr. H. F. Blanford.

Dr. H. B. Buckle, C. B., Calcutta, proposed by Dr. D. B. Smith, seconded by Mr. H. F. Blanford.

C. Brownfield, Esq., Assistant Revenue Surveyor, Gowhatty, proposed by Colonel Gastrell, seconded by Mr. H. F. Blanford.

Letters from Dr. A. C. Macrae, and Lieutenant-Colonel D. G.

Robinson, intimating their desire to withdraw from the Society, were recorded.

The Chairman said that, in behalf of the Council, he had to submit to the meeting an important resolution, and he regretted much that the President or the Vice-Presidents were not present to take charge of it. But as a native of India, deeply interested in the education of his countrymen, he could not put it to the vote without saying a few words on the subject of it. That subject was no other than the intellectual culture of a whole race, and on its correct understanding depended the welfare of a hundred and eighty millions of fellow beings. It had already engaged the attention of some of the greatest scholars that Europe had sent out to India, and some of the most revered names in the annals of the Society had been associated with it. But the question had not yet been finally settled. It was yet undecided, at least in India, whether the masses should be taught through the medium of the vernacular, or through a foreign language, and ever and anon the most startling theories were propounded on the subject. But the sympathies of the Asiatic Society had always been with those who advocated the use of the vernaculars. "Thirty years ago, the late distinguished naturalist, Mr. Brian Haughton Hodgson, whose bust adorns our hall, and whose numerous and varied contributions adorn the pages of our Journal, most ably advocated the preëminence of the vernaculars in a series of letters, whose arguments yet remain unanswered; and this day I have the honor, in the name of the Council, to move that we record our approbation of the enlightened opinion of another of our distinguished associates, that to render education accessible to all, to make knowledge permeate the masses, it must be offered through the vernacular." It was not to be denied that the current languages of India were as yet poor and without a healthy literature, that all the sciences were locked up in the languages of Europe, and that to render them accessible to the people, they must have recourse to the "open sesame" of the English tongue, but that "open sesame," that Aladin's lamp of knowledge, however useful when once acquired, was not easy to be had. It was easier far to create a healthy scientific literature in any vernacular language, than for a large nation to acquire a foreign tongue. "I have myself devoted some of the best years of my life to its

acquisition, and my broken English this night will convince you how unsuccessful have been my labours." Referring to the rules of the Calcutta University, he said that a course of nine or ten years was necessary to give a sufficient knowledge of the English language, to enable a boy to begin the study of the sciences. Now, as language was but a means and not an end, and as men did not learn it for its own sake, but for the knowledge that was to be acquired through its medium, that language must make the best medium of education which was acquired the easiest; and as the vernacular of a nation was acquired without any labour or exertion, as it grew with its growth, and ripened with its maturity—a part and parcel of its existence—it was infinitely better adapted to make learning easy, than the English which could not be learned in less than ten years. The carpenter who begins by mining the crude ore, smelting his iron, and forging his chisel, before commencing upon a table, will be far behind him who takes up a ready made chisel in the market; and the table that will be turned out by the latter will be incomparably superior to that of the former. And what was true of the carpenter and his chisel, was equally so of the scholar and the instrument of his learning. The man who would take up a language ready to his hand, would be far more successful in his studies, than he who would devote a whole decade of years to its acquisition. It may be said that when the English has been naturalised in this country, it would come home to the people, just as well as the vernacular. But to wait for that time, would be to indefinitely postpone their education. A hundred years of British rule in India had not yet taught more than one in ten thousands of the native inhabitants to speak the English language. Seven centuries of Moslem supremacy in this country, instead of uprooting the vernaculars, served only to make the conquerors give up their own in favour of an Indian tongue—the Hindi. For more than three centuries the Norman French was the language of the court and of the camp, of business and of fashion, in England, and yet it failed to supplant the old Saxon. The Romans, those great masters of political government, had before that time made it a point of state policy, and an instrument of police, to suppress the language of their subject nations, but never succeeded in destroying a single language of any extent. The Teutonic was still the basis of the English, des-

pite the sovereignty of the Romans in Britain for centuries. But admitting that the means and appliances of modern civilization, the printing press, the electric telegraph, the railroad, and steam vessels, would effect what the conquering Romans and the Moslems failed to achieve, still it would be a work of time which must be represented by centuries, and not by years, and all that time the work of educating the masses must be allowed to stand still, and the gloom of ignorance to pervade the land. The people had not the necessary leisure, first to learn a difficult and foreign language, and then the sciences, and consequently the sciences and intellectual enlightenment had to be left to take care of themselves. Such was the case in Europe as long as the vernaculars were neglected, and so must it be in this country. In India, men had to begin life—to buffet the world for existence—at a very early age Even in Europe, the average period devoted to education was limited to between five and six years; in India it was considerably less, and it was impossible to devote ten years out of it for the acquisition of a foreign tongue, which was not knowledge itself, but merely a key to open the storehouse of knowledge. It would be generally admitted that in European universities more time was devoted to the classical languages than to any other branches of study, and yet he thought he could assert, without any fear of contradiction, that were the classics this day made the only vehicle of science, its progress would at once be thrown back a century, and our scientific men would number by dozens instead of thousands. Hence it was that the darkness of the middle ages prevailed over England until the Norman French of the conquerors was replaced by the Anglo-Saxon, and the same veil of ignorance covered the human mind in France, Italy and Germany as long as the Latin of the schoolmen was not superseded by the vernaculars of those countries. In Russia the first dawn of civilization dated with the use of the Russian as the vehicle of education. In making these remarks, it was not at all his wish to deprecate the study of the classics and foreign languages, but to point out the superior adaptability of the vernaculars as a medium of scientific education for the people at large, and scientific education was of greater importance than the most copious or the most perfect language that was ever devised by the ingenuity of man, or produced by nature. Let those who have the leisure and the oppor-

tunity learn the classics. The training they gave to the mind would be of immense use to many. They placed at the disposal of students the productions of the greatest scholars and thinkers of antiquity. The modern languages of Europe too were of the greatest value—the English of the most vital importance—to the people of India, and the higher and the middle classes could not neglect them without neglecting their best interests. The value of the intellectual treasures which the English language placed at the disposal of the natives could not be exaggerated. Then, for the Hindus the Sanskrit was the emblem of their most cherished recollections and their ancient glory. To cast it aside, as "the sloughed skin of the past," would be to cast away that which should be the nearest and dearest to them, to resign their nationality, and without a past to reduce themselves to the level of the Coles, the Bheels and the Sonthals. To give up the classics or foreign languages was therefore the farthest from his thought; the amenities of modern civilization rendered them the most essential parts of a liberal education; all that he contended for, and what, in his opinion, the Hon'ble the Lieutenant-Governor of the Punjab advocated, was that our system of education, to be national, should be based on the vernacular; that the vernacular was the best medium of education for the masses; and that it should not be neglected by the higher and the middle classes; for it has been justly observed by Frederick Schlegel, one of the greatest scholars of this century, that the acquaintance with foreign languages, whether dead or living, need not be associated with a neglect of the vernacular speech, "a neglect which is always sure to work its own revenge on those who practise it, and which can never be supposed to create any prejudice in favour of their politeness or their erudition."

The Chairman then, in accordance with the notice given at the previous meeting, moved, on the part of the Council—

That this meeting is desirous of placing on record its appreciation of the enlightened interest in the promotion of the study of Oriental Literature evinced by the Lieutenant-Governor of the Punjab, in his late reply to the address of the founders of the proposed Oriental College at Lahore.

Mr. Grote said that, though a motion of the Council was in no need of a Seconder, it gave him great pleasure to support their pro-

posed Resolution which, as it required no previous notice, it had been intended to bring up before the April meeting. For some reason which, not having been present at that meeting, he was unaware of, the Resolution had been deferred, and the subject to which it had reference, was now an occurrence of three months ago. The meeting would remember that the Hon'ble Mr. Macleod had, in his reply to the address, then presented to him by the native chiefs and others, who had projected the foundation of the Oriental College at Lahore, offered them some excellent advice. Among other things he laid stress on the importance of cultivating their own literature, and it was to this part of the reply that the Council's resolution called attention. It seemed natural that the Society which had so long endeavoured to push Oriental research, and which was now making, as Mr. Grote believed, the best use of a liberal Government grant for the publication of a series of classical and historical works in the Sanskrit and Persian languages, should acknowledge the assistance which their efforts derived from such a declaration, as that lately made by the head of the Punjab Government. The Hon'ble Mr. Macleod was one of the oldest members of the Society, and there was room to hope that, under his auspices, the Auxiliary Society lately established at Lahore would grow and flourish, and thus bring additional strength to the parent Society, by increasing its own small but industrious knot of native orientalists.

Mr. Campbell asked, if he could see a copy of Mr. Macleod's address; and understanding that it was not then to be had, said that he would like to suggest whether some caution was not necessary. The meeting might have a general confidence that anything said by Mr. Macleod would be wise and good, but still the Society might be committing itself to what might seem like an expression of opinion on a matter of some nicety. No one, he believed, would doubt that the vernacular must be the medium for instructing the masses; but the Oriental University proposed, he understood, to go farther, and to use the vernacular as the medium of higher instruction in Arts, Science and Philosophy, such as would entitle to University degrees. That might be a very good principle, and a very practicable plan; he was not at all inclined to deny it, but still it was something different from the practice hitherto adopted; it was a new experiment, and

very likely an excellent experiment. The body to whom Mr. Macleod seemed to have replied in an encouraging fashion, was wholly devoted to that plan; the excellent speech of the mover of this vote was devoted to its support. Considering the position and weight of this Society, he thought the meeting must take care, that they did not rashly and incautiously commit themselves to any opinions by voting thanks to Mr. Macleod for a particular address, without knowing exactly what Mr. Macleod said. He confessed to an imperfect recollection on the subject at this distance of time. He was far from wishing to throw cold water on the motion, he only suggested that they should have Mr. Macleod's address before them.

Mr. Campbell then moved as an amendment:

"That previously to putting this motion, Mr. Macleod's address to which it refers, be laid on the table."

Mr. Blanford would have preferred that Mr. Campbell's amendment should be seconded by some other member of the Society, but it was so manifestly desirable, that the meeting should be prepared by a full knowledge of the tenor of Mr. Macleod's address, to discuss the Council's resolution, and the important questions opened up by the Chairman in connection therewith, that he could not but support Mr. Campbell's proposition, and he would therefore second it; and if carried, he would procure copies of the address in question for circulation to the members, in anticipation of the next meeting of the Society.

The Chairman explained that the remarks with which he introduced the resolution, were intended to give expression to his own individual opinion on the subject of the Hon'ble Mr. Macleod's reply, but that the wording of the resolution was general, and would not commit the Society to the extent that was apprehended.

Mr. Grote replied that the wording of the resolution was general, and had purposely been made so by the Council, with a view to avoid pledging the Society to a support of the views on the educational question contained in Mr. Macleod's reply. He would, with the Chairman's permission, read the resolution again to the meeting.

Mr. Phear said, that Mr. Grote had referred to the words of the resolution as sufficient of themselves to explain the full extent of the vote, which the meeting was asked to come to. Mr. Phear, who had not

seen or read Mr. Macleod's speech, was obliged to confess that he did not, in the least, know what was the "enlightened appreciation" to which the resolution referred. Remembering that this Society stood high in public estimation both in this country and throughout Europe, he thought it would, by affirming this resolution in the dark, either be going too far, or it would fall short of a discharge of its proper functions, and would do that which was neither worthy of its own name, nor complimentary to Mr. Macleod. Either the resolution was intended to embody some definite proposition, which was unexpressed in it, and could not now be discussed, or it amounted to nothing more than patting Mr. Macleod on the back for having said something in a speech, of which, (so far as he, Mr. Phear, could learn) the large majority of members present were absolutely ignorant. For himself he felt there was no alternative, except to vote either against the resolution, or in favour of Mr. Campbell's amendment.

The amendment was then put to the vote and carried.

After the amendment had been carried, Mr. Grote observed that such having been the fate of the resolution, he was disposed to regret that the Council had brought it forward. The expediency of having a copy of the reply attached to the draft resolution had, it was true, suggested itself to them, while the latter was under discussion; but he (Mr. Grote) and others had represented that the purport of such a document would probably be well remembered by the Society's members, and in that belief, the Council had laid their recommendation before the meeting.

The Chairman announced that the Council had elected the Hon'ble G. Campbell a member of their body, vice Mr. W. S. Atkinson, who had resigned on proceeding to Darjeeling.

Letters were read—

1. From Dr. T. Anderson, on the specimen of supposed Indigenous Tea from Tounghoo, presented to the Society at its last meeting.

"The supposed tea plant you sent me from Burmah is *Eurya chinensis*, one of the Ternstrœmiaceæ, the natural order to which the tea plant belongs. The leaves of *Eurya chinensis* have been frequently mistaken for tea. The plant is found all over the mountains of India."

2. From J. D. Tremlett, Esq. M. A. giving some account of the Thamman tank in the Lahore district.

"During a recent tour in the interior of the Lahore district, I heard much of the beauties of an artificial tank, in the Kassûr Pergunnah, at the village of Thamman; and as I am not aware that it has been described, the following account of it, and of the traditional history of the fraternity to which it belongs, may not be altogether void of interest.

"The tank itself is of an oblong shape, and its beauty is greatly enhanced to an European eye by the two longer sides being broken into a succession of curves, by which means the stiffness and angularity which detract so much from the appearance of most Indian works of this nature, are quite got rid of. It is surrounded by a brick wall, with ghâts in one or two places, but as there is no continuous walk immediately round it, I was unable, by pacing it, to obtain even an approximate idea of its dimensions: the headmen of the village, however, said its area was larger than that of the great tank surrounding the Sikh temple at Umritsur, and I am inclined to agree with them. The effect is also improved by a small islet, covered with trees and verdure, which rises out of the water near the western face; and the legend connected with which will be mentioned below.

"On all sides stand the samâdhs and hospices of the fraternity of Vairagee faqirs to whom the place belongs, thickly interspersed with splendid trees, peepuls, acacias and sissoos; and in passing, it may be remarked, that it is to the care of these mendicants, objectionable as the class may be in many points, that Upper India owes so many of those really magnificent trees, which make, so to speak, such frequent oases of beauty in the midst of the dull monotony of the ordinary landscape. The buildings which are all constructed of burnt brick, and stand at short distances from each other, are mostly tenantless, except for some three days in the year, in the beginning of the month of Baisakh, when a large fair is held, at which the whole country side collects. From some of the brotherhood, I obtained the following account of the origin of the sect established here, and of the tank itself:—

"About the time of the Emperor Shah Jehân, there lived in the village of Killah in the Derajât, a peasant gifted with more than mortal knowledge, by name Rai Mull. His wife, going one day to the village well to draw water, was driven away by the other women, who reviled

her for having no spiritual guide; she of course carried her troubles to her lord, and implored him to tell her who their guru was: he answered, that she must be patient, as the teacher was yet only a child of six years. but she was too true a woman to be put off with such a reply, and possibly felt that, whether the spiritual benefits to be derived from the holy guide were essential or not, the free use of the well was. Accordingly Rai Mull was talked over, and he set off at once with his wife to Keâlah, a village in the neighbourhood of Battâlah. On approaching the village, they see a group of children at play, one of whom, Ram Thamman, is at once pointed out by Rai Mall as their guru: when, however, he proceeded to prostrate himself before him, the child told him that he had come sooner than he should, as the time for his manifestation had not arrived; still as he had been thus hasty, his labour should not be in vain, as he would accompany him. Rai Mall was then carrying him away in his arms, when the child's parents, who were Khatrees of the village, came out with their friends, and after beating the strangers, rescued the lad. Filial duty, however, does not appear to have been one of the pious founder's virtues, for he annihilated at once, (how, is not said,) the whole of his too officious kindred, with the exception of one woman whom he spared, as she vowed that the child of which she was then pregnant should become his disciple. Rai Mull then took Ram Thamman with him to Urârah, thinking possibly that the good people of Killah were unworthy of having so holy a youth dwelling among them. After two years, however, the prodigies the youth performed won him so little favour, that he was summarily ejected from Urârah; on which, having cursed the place, he removed to a spot two coss off from the site of the present monastery.

"After this migration he begun to enrol disciples, Rai Mull holding the first place among the twelve who attached themselves to him. The present fraternity at Thamman are the successors of six of these, the remaining moiety having left no disciples. Subsequently, he is said to have removed to a neighbouring village, the proprietor of which, a Musulmân named Kâlu Kâra, became as much disgusted with the prodigies and miracles wrought by the holy man as the Urârah people had been before him, and imperatively ordered him to quit his land. This order, Ram Thamman quietly met by saying

that the land was his, and not Kâlu Kâra's at all; ultimately, the dispute was brought before the masnad of Shah Jehân, who referred the litigants to a celebrated Pîr at Shergurh. When called on by him for their proofs, the Musulmân said that if they were to dig on the site where the tank now is, if the land were his, an ox yoke would be found, while the Hindu affirmed that if his claim were good, the sandals, deer skin, drinking gourd, and fireplace which he had used in a previous life, would be discovered. On digging, of course the Musulmân's token was nowhere; and on coming on the relics of Ram Thamman's prior existence, he was acknowledged with plaudits to be the indisputable lord of the soil. When he subsequently wished to improve his new acquisition, the Sheshnâg came, and at the sage's bidding, where the serpent moved, the tank formed itself.

"My informants, after this engineering exploit, had nothing further to tell of Ram Thamman, except that when one Achalnâth, who was partly a disciple of the guru, and partly remained a jogee as before, asked for quarters from his master, the latter threw a flower into the tank, and told him to dwell there; the disciple having faith of the strongest, obeyed, and was rewarded by the tiny islet arising, of which mention has already been made. On the Bábá's death, his disciples built their monastic dwellings round the holy lake.

"As an illustration of the tendency of Hindu sects in the Punjab to claim affinity with the great teacher of the land, I may add that the Faqirs asserted that Ram Thamman and Bábá Nânak's mothers were own sisters, notwithstanding that their own account that the guru's dispute with Kâlu Kâra took place in Shah Jehan's reign, shews that their founder belongs to the seventeenth, rather than the end of the fifteenth, century.

"The whole narrative, however, is not without its value, as pointing out the strong and weak points in indigenous tradition in this country; for, while they had nothing but wild myths to relate about the incidents in their founder's life, or of the construction of one of the finest works of its kind in the country, they were able to furnish lists of the successive heads of their subdivisions, linking the present incumbents with the immediate disciples of the guru, and to speak with a detail, which looks like truth, of the various villages whence their ancestors, or those whom they regard as standing *in loco parentum* had come."

The following communications were announced :—

1. From P. A. Minas, Esq., a short sketch of the tribes of Bhuttiana and Harriana.

2. From R. Adams, Esq., through the Govt. of the N. W. P. "Notes on the 'Madar' plant."

3. From C. Horne, Esq., C. S. "Notes on the Jumma Musjid of Etawah."

The Secretary read Mr. Horne's paper, which will appear in due course in the Journal of the Society.

Dr. John Anderson reported that the following specimens had been purchased for the Museum :—

Canis familiaris.
Felis Bengalensis.
Felis chaus.
Eclectus polychloros.
Eclectus grandis.
Loriculus pumilus.
Lophophorus Impeyanus.
Casuarius galeatus.

The Librarian submitted a list of additions made to the Library since the meeting held in February last.

LIBRARY.

The following are the additions made to the Library since the meeting held in February last :—

Presentations.

*** The names of Donors in capitals.

The Geographical and Statistical report of the District of Tipperah, by R. Smart.—THE BENGAL GOVERNMENT.

Notice sur le Couvent Arménien de l'île S. Lazare de Venise, by V. Langlois.—J. AVDALL, ESQ.

The Astronomical observations of the Cambridge Observatory, by Rev. J. Challis, Vol. XX.—THE SYNDICATE OF THE OBSERVATORY.

Classified Catalogue of Tamil printed Books, by J. Murdoch.—THE COMPILER.

Pre-Historic Man; being a lecture delivered at the Dalhousie Institute, Calcutta, by H. F. Blanford, Esq.—THE AUTHOR.

Report of the High Ranges of the Annamullay Mountains, by Lieut.-Col. D. Hamilton.—THE AUTHOR.

Racines ou Idiotismes Fondamentaux de la Langue Turque, by N. A. Henry, Esq.—THE AUTHOR.

Levée de Tagouss, by N. A. Henry, Esq.—THE AUTHOR.

Pudmini Upákhyána, পদ্মিনী উপাখ্যান 2nd Edition, by Babu Rangolála Banerjee.—THE CALCUTTA S. B. SOCIETY.

Official Catalogue of International Exhibition, Italy.—THE DIRECTOR OF THE ROYAL INDUSTRIEL MUSEUM OF TURIN.

Journal Statistical Society of London, Vol. XXVIII, Part 4.—THE SOCIETY.

Journal of the Agri-Horticultural Society of India, Vol. XIV, Part 2.—THE AGRI-HORTICULTURAL SOCIETY.

Jahrbuch der Kaiserlich-Königlichen Geologischen Reichsanstalt, Vol. XV, No. 3.—K. K. REICHSANSTALT.

Proceedings of the Royal Society, of London, Vol. XIV. No. 79, Vol. XV. Nos. 80, 81.—THE ROYAL SOCIETY OF LONDON.

The Calcutta Christian Observer, Vol. XXVII, Nos. 314, 315.—THE EDITOR.

Memoirs of the Geological Survey of India (Palæontologia Indica.) Vol. III. Parts 10 to 13.—THE GOVERNMENTS OF INDIA AND BENGAL, AND THE SUPERINTENDENT OF THE GEOLOGICAL SURVEY OF INDIA.

Selections from the Records of the Government of Bengal, No. 42.—THE BENGAL GOVERNMENT.

Selections from the Records of the Government of Bombay,—New Series, No. 1, with a map.—THE BOMBAY GOVERNMENT.

Proceedings of the Royal Geographical Society, Vol. X, No. 2.—THE ROYAL GEOGRAPHICAL SOCIETY.

Exchanges.

The Athenæum, from December 1865 to February 1866.

The Philosophical Magazine and Journal of Science, Vol. XXXI, Nos. 206 to 208.

Purchases.

Numismatic Chronicles and Journal of the Numismatic Society, Vol. V, No. 20.

Trilingual Dictionary, by Mathurá P. Misri.

Atlas Ichthyologique des Indes Orientales Neerlandaises, by M. P. Bleeker, No. 20.

Zoological sketches, by J. Wolf, Parts 7, 8.

The Treasury of Botany, by J. Lindlay and T. Moore, 2 Vols.

The Comparative Anatomy, by W. Owen.

The Ferns of British India, being figures and descriptions of Ferns from all parts of British India, by Capt. R. H. Beddome, Parts 9 and 10.

Pre-Historic Remains of Caithness, by Laing and Huxley.

Exotic Butterflies, by W. C. Hewitson, Part 57.

Sanscrit Worterbuch, by O. Bohtlingk and Roth, Vol. V, Part 1.

Reeve's Conchologia Iconica, Parts 252, 253.

Indische Sprüche, by O. Böhtlingk, Vol. III.

Deutsches Worterbuch, by J. and W. Grimm, Vol. IV, Part 3.

Kávya Kalapa, কাব্য কলাপ by Heera Chánd, No. 4.

The Structure of Animal Life, by L. Agassiz.

Ten Years in Saráwak, by C. Brooke.

Dictionnaire Turc-Arab-Persan, by Dr. J. T. Zenker.

The Annals and Magazine of Natural History, Vol. XVII, Nos. 97 to 99.

Comptes Rendus de l'Académie des Sciences, Tome LXII, Nos. 1 to 10, with an Index for the year 1865.

The Edinburgh Review, Vol. CXXIII, No. 251.

Journal des Savants, December 1865 and January 1866.

The Quarterly Review, Vol. CXVII, No. 235, Vol. CXIX, No. 237.

Revue des Deux Mondes, from 15th December, 1865 to 1st March, 1866.

Revue et Magasin de Zoologie, Vol. XVII, Nos. 11, 12, and Vol. XVIII, Nos. 1, 2.

The Ibis, a Magazine of General Ornithology, Vol. II. No. 5.

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR JUNE, 1866.

The last monthly general meeting of the Asiatic Society was held on Wednesday, the 6th instant.

W. L. Heeley, Esq., Vice-President, in the Chair.

The minutes of the last meeting were read and confirmed.

Presentations were announced.

1. From J. H. Crawford, Esq., a steel print portrait of Sir Jamsetjee Jejeebhoy, Bart.

2. From Moulavi Agha Ahmad Ali, through Professor Blochmann, a copy of "Muayzid-i-Burhan," a lexicographical work in Persian.

3. From Professor Goldstücker, Principal Editor, Sanskrit Text Society, a copy of the "Nyaya Mala Vistara."

4. From Capt. G. C. Depree, two Rubbings of a Pali inscription from a cave below the celebrated Ramgurh hills in Sirgooja. The following letter accompanied the donation :—

Chota Nagpore, 6th May, 1866.

MY DEAR HEELEY,

I have to-day sent off a book post packet, containing some rubbings of a Pali inscription cut in a cave below the celebrated Ramgurh Hill in Sirgooja, which was described by Col. Dalton, and published in the Asiatic Society's Journal in his "Notes of a tour, &c." Will you kindly give the said rubbings over to any savant, and send me particulars of the translation when one be made. You will see that in addition to the rubbing of each letter, I have subscribed the form of the letter carefully copied by hand: this will elucidate a doubtful impression. The second or western inscription I copied entirely, as my

hand became accustomed to the character, the letters were all repetitions of those in the eastern inscription.

I have some water from the hot springs of Sirgooja, also some surface coal from the same locality. Will they be of any interest to the Society? If so, I will send them down.

Believe me,

Yours sincerely,

(Sd.) G. C. DEPREE.

5. From J. Westmacott, Esq., specimens of canes, rattans, and a skull of a deer, from Jessore.

6. From S. Jennings, Esq., a specimen of a flying lizard, *Draco Dussumieri.*

The following gentlemen, duly proposed at the last meeting, were balloted for and elected as ordinary members :—

R. B. Smart, Esq.; Capt. J. Macdonald; T. W. Gribble, Esq., C. S. J. Sime, Esq., B. A.; W. H. Bourke, Esq, Barrister-at-Law; Dr. H. B. Buckle, C. B.; C. Brownfield, Esq.

The following gentlemen were proposed as ordinary members :—

A. Anderson, Esq., Fyzabad, proposed by Mr. Grote, seconded by Mr. Blanford.

M. H. Ormsby, Esq., proposed by Mr. Ball, seconded by Mr. Fedden.

J. H. Mathews, Esq., proposed by Mr. Locke, seconded by Mr. Blanford.

Letters from Capt. G. M. Bowie and J. C. Whishaw, Esq., intimating their desire to withdraw from the Society, were recorded.

In accordance with the amendment carried in the last meeting, the following papers were laid on the table :—"An address of the native nobility and gentry of Lahore and Umritsur, to the Hon'ble D. F. McLeod, C. B., Lieutenant-Governor of the Punjab, on the establishment of a College for the study of Oriental languages:" and His Honor's reply to the same.

The Secretary read the following memo. and a letter from the Hon'ble Mr. Macleod :—

Memorandum on proposed Oriental University at Lahore.

Having waited for a length of time, after replying to the Address of the Lahore and Amritsur gentry on the above subject, expecting to receive from their Committee a statement of the course they intended

to pursue, and finding that they made no move, I had an interview on the subject with Dr. Leitner, which ended in his requesting me to suggest to them in writing the measures which I would advise them to adopt.

I accordingly wrote to them, that there appeared to me to be only two methods in which Government could effectively co-operate with their Committee, viz :

1. By so far modifying the rules of the Calcutta University, as to admit of purely Oriental Colleges being affiliated to it; appropriate honours and degrees being awarded to the foremost pupils of these Colleges, by a special machinery formed for the purpose; grants-in-aid being, at the same time, allowed to these Colleges;—or

2ndly. By so far modifying the Grant-in-aid Rules, as to admit of an Oriental University, such as the Committee propose to establish for the Punjab, receiving a grant-in-aid; and being otherwise dealt with as a grant-in-aid Institution.

The Committee, I find, unanimously preferred the latter, and within the last few days, I have received from them a Resolution in English* to this effect, which I am now about to submit to Government.

I intimated to Dr. Leitner, that I considered the first of these methods, if practicable, to be by far the preferable one, and pointed out that if they did not at least make the effort to secure its adoption, they would subject themselves to the same charges, which they bring against the Anglo-Educationists, of being too exclusive. But they have nevertheless, as I have stated, determined to solicit the adoption of the second measure, in preference—despairing, it would appear —and not perhaps without reason—of obtaining any such concession on the part of the Calcutta University, as would meet their views.

Not being myself conversant with University matters, and being at a distance from the Head-Quarters of the Supreme Government, where the Calcutta University has been established, I feel that I am by no means competent to discuss this matter, or to advise in connection with it, successfully. And accordingly, if the members of the Asiatic Society who take a deep interest in the cause of Oriental Literature, and are more favourably circumstanced than I, will afford us the

* A copy is subjoined.

aid of their advice and encouragement, they will be rendering us, at the present time, a very essential service.

D. F. M'LEOD.

Lahore, the 22nd May, 1866.

Resolution of provisional Committee at Lahore, in regard to the relation which they desire to be established between the proposed Oriental University and the Government.

The following Resolution was arrived at by the provisional Committee of the Oriental University, consisting of more than half of the supporters of the movement, at a meeting held on the morning of the 30th (thirtieth) of April, 1866:—

"That the supporters of the Oriental University movement consider it essential to the success of the objects they have in view, that the Oriental University should have a separate existence; that it should give every guarantee of proper financial management which the Government and the public may require; that the Grant-in-aid rules are the only ones which at present meet the case of the Oriental University, but that they should be in so far modified as to admit of the direct control of the Vice-Patron, the Governor-General; Chancellor (the Lieutenant-Governor); the Official Governor and the Council;* which the dignity and vastness of the scheme, as a national one, essentially require."

The above papers having been read, the Chairman moved on behalf of the Council—"That this meeting is desirous of placing on record its appreciation of the enlightened interest in the promotion of the study of oriental literature evinced by the Lieutenant-Governor of the Punjab, in his late reply to the address of the founders of the proposed oriental college at Lahore."

Major Lees said that he desired to make a few remarks before the resolution was put from the chair, for two reasons—*First*, to correct an erroneous impression that had got abroad, that any apathy had been shown by the Society in noticing the movement that have been made in the Punjab for the encouragement of the study of the oriental

* *Vide* rough draft of the Oriental University as published in the *Lahore Chronicle* and the *Punjab Educational Magazine*.

classics; and *second*, to point out the close connection that existed between the Society and the principles involved in this movement.

He had seen it stated, he said, in the public prints, with reference to the reasons assigned at the last meeting of the Society, for postponing the resolution now before the Society; that "it was negatived, because this Society, once the most famous in the world as the creation of Sir William Jones and supported by James Prinsep, Wilkins, Colebrooke, Leyden, and H. H. Wilson, had not even read the address, and the Council could not supply them with a copy." Mr. Macleod, it was added, must be ashamed of his would-be admirers, and it asked "if there was no genuine scholar in the Society to redeem its reputation?" Now he was prepared to show that there was no apathy on the part of this Society in this matter. The reply of the Lieutenant-Governor was first published in the *Lahore Chronicle*, very few copies of which journal reached Calcutta, and no sooner had notices of it appeared in other newspapers, than he had very many applications from members of this Society for permission to peruse it, but copies of this paper could not be obtained here. A resolution, however, somewhat similar to that now before the meeting, was at once drawn up and submitted to the President of the Society: but it was thought that more publicity should be given to the views of Mr. McLeod before any movement were made by the Society. He then had a copy of the Lieutenant-Governor's reply published in a daily paper; but it is known to all, that the official duties of every one in India are so arduous, that they have not always leisure to read all that appears in the daily papers, on the day that it is published, and thus, frequently, valuable information is lost sight of. He stated that he had immediately addressed several parties at Lahore, soliciting that a large number of copies should be sent to the Society; and that, finally, not obtaining them, he had addressed the Lieutenant-Governor himself. The Lieutenant-Governor, a few days ago, forwarded twelve copies of the address and his reply, and the memorandum which the Secretary had just read to the meeting; and the following extract from his letter will satisfy the meeting, that the delay in placing this document within their reach, and in bringing forward this resolution, was not attributable to any want of zeal in the cause Mr. McLeod had so ably advocated. Here Major Lees read an extract from a private

letter from Mr. McLeod, stating that the delay originated in the first translation of the address made being imperfect, and defective printing arrangements.

Major Lees said that he thought it would be travelling out of our way to notice the subject from an educational stand-point. That was a view of the question which, in his opinion, did not concern the Society. The Government of India were responsible for the education of the people of the country; and no doubt they were fully competent to deal with any points of difference that might arise in discussions regarding this important subject. They were undoubtedly the best judges of what were the proper *media*, through which education should be given to the natives of India, and whatever *media* they should decide upon adopting, it was no business of this Society or its members, to express any opinion on their suitability, or otherwise, for the purposes of attaining the object in view.

There was a point of view, however, in which he conceived that the encouragement of oriental Shasters pre-eminently concerned this Society—their bearing on historical, archæological, and philological enquiries; to render which of value, required of the enquirer an accurate and critical knowledge of the oriental classical languages. It was to these enquiries that this Society owed its foundation; it was these enquiries that first created a desire for the knowledge of oriental literature; and it was in this Society, and within these walls, that, when in 1835, the Government of India showed such hostility to the cultivation of the languages and literature of the East, as to direct that all support and encouragement should be withdrawn from them, so noble a stand was made against their policy in this respect, by Macnaghten, the two Prinseps, Sir E. Ryan, and other of its most distinguished members. Nor were the Government satisfied with legislating for the future. They went further, and directed that the printing of the long list of oriental works, which the Committee of Education had at the time in the Press, many of which were half, and some almost entirely completed, should be discontinued. He held in his hand a list of those works, thus consigned to sudden destruction, a few of which he would read. The first work on that list was the *Mahábhárata*, the Iliad of Indian literature; the second was the *Rájatarangini*, that work to which per-

haps of all others we were indebted for the most accurate account of the history of the earliest period of the North of India. Lower down in the list came the *Fatwa Alamgíri*, an Indian work on Mahommedan law and precedents, of such singular merit and such high reputation throughout every part of the East where the Mahommedan religion prevailed, that, some years ago, when travelling through Egypt, he was asked by the Shaikh-ul-Islam for a copy, as the most valuable gift he could bestow on him. The Hon'ble Justice Campbell no doubt was aware of the rare value of this noble work. Then follows the *Máya*, another Mahommedan law book, a commentary on the *Kifáyah* and the great Mahommedan authority in India, the *Hedáyah*, the *Rámáyana*, the *Surya Siddhánta*, and many other equally important works on Law, Rhetoric, and Logic. All these valuable works, it was the desire of the Government of India of the day, to consign to destruction; an act, to use the words of our most distinguished Secretary, James Prinsep, "not far out-done by the destruction of the Alexandrine library itself." Such was the opinion of this Society in those days; and many members of the Society in these days will perhaps hear with surprise, that these valuable works were considered "waste paper" by the Government of India. On the fiat for their destruction having gone forth, the Society at once memorialized the Government to prefer their humble prayer to the Home-Government for a special grant to be appropriated exclusively to the support of oriental literature; they further asked to be permitted to continue the printing of the works which had been stopped, soliciting some pecuniary grant to aid them in carrying out the undertaking. But the Government of India declined to solicit any special aid from the Court for the promotion of the object the Society had in view; and their reply on this and the other points is so remarkable that I will read it to the meeting. "The Government having resolved to discontinue, with some exceptions, the printing of the projected editions of oriental works, a great portion of the limited Education Fund having hitherto been expended on similar publications, to little purpose but to accumulate stores of waste paper, cannot furnish pecuniary aid to the Society for the further printing of those works, but will gladly make over the parts already printed either to the Asiatic Society, or to any other Society or individuals, who may be disposed to complete the publica-

tion at their own expense." The Society did not, however, allow the matter to rest; but memorialized the Court of Directors on the subject; and bringing all the influence, both official and private, it could command, to the support of the cause it so earnestly and so ably advocated, succeeded finally in obtaining that grant of Rs. 500 a month which has been mainly instrumental in enabling it to print that large series of very valuable oriental works, which have been published in the *Bibliotheca Indica*. Indeed so faithfully has the Society discharged its trust to the oriental world in this respect, that it was remarked in a late Annual Report of the *Société Asiatique*, that never was a grant for similar purposes more admirably administered.

"This Society has ever been the faithful and solitary guardian of oriental literature and oriental studies in India, and had it not been for its existence, it is difficult to say to what extent they would have been neglected. It was the cradle, I may say, of all the knowledge which the West of late years has obtained from the East; for it is to the early efforts of its members, that the oriental languages owe the important position they have now attained in Europe. It is since the study of the Sanskrit language has been developed, that language itself has attained to the dignity of science, and while such value is attributed to the oriental classics in the West—while scholars pursue their study with such enthusiasm and such success, it is melancholy to observe the decay of oriental learning in its natural home, proceeding so steadily and so surely that there is some fear that soon we may look for an oriental scholar, European or Native, and look in vain. Most of us sitting round this table are Government servants, but we do not sit here as such, but in a higher capacity. We are here, rather, cautiously to watch its action in all matters connected with those high objects we have in view, and respectfully to express our opinions on their effects, as they appear to us to be injurious, or the contrary, to the progress of ancient literature and science. It is notorious that the Government of Great Britain does least of any of the great Governments of Europe for the direct encouragement of science. Almost everything that is done in England for the advancement of science, is accomplished by private Societies—Societies such as that, which we here represent. When

Government there, can be brought to move or to aid in any movement having for its object the attainment of a scientific end, its cooperation or assistance is almost invariably obtained through the pressure of some of those numerous Societies which are the pride of our country; and it is no cause for wonder, if such is the case in England, that the same rule should hold good in this country, and that we should find it necessary occasionally to remind the Government of India of the duties it owes to the important interests we hold in our keeping."

In conclusion, he trusted that he had made it clear to the meeting, how intimate was the connection of this Society with the movement that was now taking place in the Punjab, and how deep an interest it had in its success. He gave it as his opinion that the neglect of oriental studies in India had now reached the culminating point, and that therefore it was incumbent on this Society to give to the new movement its most cordial and most hearty support.

Mr. Campbell said—"I entirely concur in thinking that this Society cannot take upon itself to express, as a body, any opinion on questions of a properly Educational and Departmental character, and on that account I have somewhat regretted that, going beyond the address, which is the subject of the motion, other papers raising such questions should have been read. I would also especially deprecate our saying or doing anything which should seem to take us back to the old divisions of Anglicists and Orientalists. I have felt that caution is necessary in regard to one or two of Mr. Macleod's expressions which seem to point that way, the more so as the learned mover of the proposition before us also used some such expressions. While admitting that there is great force in much that has been said by Major Lees, I can in no way assent to those parts of his observations, which would appear to make us partizans in those ancient and almost forgotten battles of the year 1835. As regards all that then passed, I would say, 'Let the dead bury their dead.' Even supposing that the Government of those days were the rude and barbarous Goths that Major Lees represents them to be, (the name of the chief offender being, it appears, that of Macaulay), he has also told us that the work of Oriental Publications has not been altogether neglected. Barbarians as they were, the Government made a pecuniary grant for the pur-

pose to those better qualified than themselves, viz. to this Society, which has used it with that excellent effect which Major Lees has so well described. I would have it then to be distinctly understood that we neither take the part of the Orientalists against the Anglicists, nor make the praise of one Governor the occasion of blaming any other Governors living or dead. I think that we should confine ourselves strictly to the compass of the resolution before us, viz. to express in general terms our thanks to Mr. Macleod for promoting by his address the study of Oriental Literature; having regard not to particular expressions, but to the general tone and tenor of the address. I have now carefully read it, and thinking that, particular phrases apart, it is in the main admirable and excellent, I wish to give my humble support to the motion before the meeting. For myself I have no doubt that the Educational movement of 30 years ago has resulted in great positive good. I think that the study of English, and of all that English unlocks to the natives, has been attended with the greatest advantages both in an Educational and in a Political point of view. I believe that if Education had been left to the Sanscrit and Arabic Colleges, we should have been worlds behind our present point. No one in Calcutta can look round on the many educated and intelligent natives: no one can see the thorough, lively, and healthy interest taken by the native youth in many discussions in the English language, without being convinced that there has been an enormous gain. At the same time I think it cannot be denied that there are two sides to the picture—that there are certain drawbacks to the English system of education. In the first place, it is evident that the means available in Calcutta are not and probably for generations will not be available in most parts of the country. For many a long day, the Calcutta system cannot be general; and it is most undesirable that meantime the great body of the native youth should be shut out from European learning. Again, nothing can be more forcibly or better put, than the argument of the learned member Bábú Rájendra, in support of his own view of the case. It seems clear that if a man must spend several years of his life in acquiring a foreign language, as the mere vehicle of knowledge, the field must be very much narrowed. So again as respects the Educational results of the present system, there is, I think, a good deal of truth in these

passages of Mr. Macleod's address, which I will read. He says, "Notwithstanding some brilliant exceptions, the great bulk of our scholars never attain more than a very superficial knowledge either of English or of the subjects they study in that language, while the mental training imparted is, as a general rule, of a purely imitative character, ill-calculated to raise the nation to habits of vigorous and independent thought:" and "The youths who are attracted to our schools and colleges are, for the most part, those who desire only to qualify themselves for public employ, or to acquire a colloquial knowledge of English, seldom or never including youths of those classes who are used to devote themselves wholly to the cause of learning." These observations very much tally with those made by another distinguished man and great thinker, at the late meeting of the Calcutta University, by the Vice-Chancellor, Mr Maine. *He* also dwelt on the want of masculine vigour—on the *imitative* character of the present Native Education. He told the students that their acquisitions were too much an effort of memory, and too little an exercise of the reasoning faculties, and he recommended the greater cultivation of exact sciences, as distinguished from mere English literature. Now it seems evident, that the acquisition of a strange language must be in the main a severe and long continued effort of memory, and that there now stands in the way a great obstacle to the cultivation of those European sciences which Mr. Maine recommends. Such are the drawbacks as respects the natives. Another and, I think, no inconsiderable drawback of the present system is in its effects on Europeans. It seems to me to be indisputable that, during the last quarter of a century, there has not been among Europeans in India the same Oriental zeal and learning as formerly. We have made comparatively few such brilliant discoveries as illustrated the generation which commenced with Sir William Jones: we have even to a great degree neglected to work those rich mines of knowledge opened out by our predecessors, those splendid gold-bearing veins which we inherited from them. Major Lees has justly pointed out, that now more than ever their labours are bearing fruit in Europe. Now more than ever is it seen that the key to the history of language, to the history of man, has been found in India. But I lament to say that progress in India itself has not of late years kept pace with the vast importance of the subject. I have

lately had occasion to look over many papers, and I could not but be struck with the profuseness of Oriental knowledge to be found in earlier as compared with later years. To take one small example; I cannot believe that if, in the beginning of the century, we had been as intimate with Cashmir, as we have been during the last twenty years, we should have known so little of the language.

"The fact seems to be, that we have of late years to a great extent taken up this position, that the natives must come to us; we won't go to them. And having so entrenched ourselves, as it were, we have little in common with the natives most learned after their own fashion. As Mr. Macleod puts it, "The most cultivated minds amongst our race and yours have remained but too often widely apart, each being unable either to understand or to appreciate the other." In truth, I fear that in some respects the gulf between the two races is rather widening than narrowing. The old intercourse in native fashion becomes less. The men whose minds are saturated with English classics, justly feel that they are above intercourse on the old unequal footing of European ruler and Native ruled; and at the same time they have too seldom really acquired that substantially English tone of mind, that renders possible frank and cordial intercourse after the English fashion.

"Without then in any way putting it as opposed to English learning, I think we must all join in considering that every effort towards Oriental and vernacular learning, is in itself a good. So far from such learning being opposed to English learning, I believe that it is just the contrary. As Railways have not superseded roads and carriages, but, on the contrary, these latter are more than ever used as feeders to Railways, so also I believe that the use of the vernacular languages, as the medium of communicating European learning on a broader and more general scale than is now possible, and the contact of English with Oriental scholars in the use of the language of the latter, would create and whet an appetite for those larger stores of learning which English only can afford. It seems therefore to me that in the present stage of our progress, when so many natives have so good a knowledge of English, and the higher branches of education are so exclusively English, there is also much room for the encouragement of Oriental learning in two ways: first, by translating into the Vernacular books of European

learning, science, and general information, to a very much greater extent than has yet been done; and secondly, by renewed efforts on the part of men of European learning in India to acquire both the Vernacular and the learned languages of the East, to bring themselves into contact with the most learned and intelligent men of Oriental education, and with their aid to work out the stores of knowledge and the passages in the history of mankind which lie ready to the hand of the eager seekers.

"In this view then, taking Mr. Macleod's address as a whole, I think that we properly owe him warm thanks for his encouragement of Vernacular education and Oriental literature, and may without fear commit ourselves to, as it were, an abstract proposition that these objects are in themselves excellent, without in any way pledging ourselves to anything opposed to any other system or to any educational details. I shall vote for the resolution before the meeting."

The Chairman said that in 1835 there had been two parties, Anglicists and Orientalists, in the great Educational discussion of the day. Mr. McLeod was one of the latter party, but nevertheless those who supported this resolution, would not thereby pledge themselves to any partisan views. The resolution merely recognised the encouragement given Mr. McLeod to the study of oriental languages, and such encouragement it was the duty of our Society also to give. We did not by this Resolution bind ourselves to adopt all the views of Mr. McLeod, but only so far as the terms of the Resolution specify. He would now put the Resolution to the vote.

The votes of the meeting being taken, the Chairman declared that the Resolution was carried unanimously.

Mr. Campbell then said that, though the motion had been carried, and he was somewhat out of order, perhaps the meeting would allow him to make one or two observations on a point which had escaped him. He had marked and read some passages in Mr. McLeod's address in which he very much coincided, but there was one more passage which he had marked, in respect to which he had the misfortune to differ from Mr. McLeod, and entertaining a somewhat strong opinion on the subject, he had wished to take the opportunity of saying so. Mr. McLeod said, "I would urge you to adhere to oriental models, whether in the designation of your Institution, the degrees

or honors they may confer, or the scientific terminology they may adopt, rather than unnecessarily import terms from European lands, which last appears to me to be as unsuitable here as would be the modes of dress of other nations, if substituted for the more graceful garments of your own." Mr. Campbell went on —" This is the passage from which I particularly dissent. It seems to me that difference of language is in itself an evil, that if we cannot soon have a *lingua franca* common to all, we should at least study rather to approximate than to draw farther apart. It is, I think, a great advantage of the vernacular languages of India, that they have a singular facility for adopting and incorporating useful foreign words. Already many English words have been incorporated in the language of the country. It used to be said that if our rule ceased, we should leave nothing behind us but empty bottles. We should now leave many material monuments. But more than that, I believe that we should also leave in the language distinct traces of our presence. Well, in respect of scientific terminology, of all things, uniformity of nomenclature is the greatest possible object, and it appears to me that whenever we would introduce into the vernacular languages a scientific term not before known to those languages, it is infinitely more convenient to import the English or European term, than to invent some horrible new name, just as strange to natives, and quite unintelligible to Europeans. When a word existing in the vernacular is well known, and correctly expresses the required meaning, by all means retain it: but when there is no such word, to coin one by the use of complex Sanscrit compounds and Arabic derivatives, seems to me to be an affectation of Oriental purism at the expense of practical utility, and one, I may add, attended with no grace whatever, but with the most crack-jaw results."

Major Lees said that at this late hour of the evening he was unwilling to prolong the discussion, and that as he had opened it, perhaps he might be permitted also to close it. It had been his desire, as he before said, to remove the discussion altogether from the arena of educational policy, for reasons before stated, and because he was aware that, as regards the educational question, there was a good deal of party feeling; but there ought not to be, and there could not be any party feeling regarding this question from the stand-point from

which he viewed it—its bearing on the advancement of literature and science. He had employed no ingenuity in the remarks he had already addressed to the meeting, his object being simply to place before the meeting, as clearly as he could, the position this Society had previously occupied with reference to the question that had come under discussion, and the interest they had in supporting to the utmost of their power the new impulse which was about to be given to the cultivation and study of the Oriental classical languages in the Punjab. As to the Educational views of the Lieutenant-Governor of the Punjab, they had better not discuss them here; they were not involved in the Resolution before the meeting, and they were foreign to the business of this Society. Mr. Justice Campbell however, he said, had fallen into error, in saying that if the Government of India had discontinued the publication of Oriental works, it had done better, it had appropriated a handsome grant for the purpose, to be administered by the most competent body to undertake this work. The Government of India had done nothing of the kind. The pecuniary aid which had been granted for the special purpose of publishing Oriental works had been obtained by the persevering exertions of this Society, not through any aid or support it received from the Government in this country, but in spite of its opposition.

The Chairman thought that such a point as that mooted by Mr. Campbell was quite within the province of our Society to decide. This Society stands in a position somewhat analogous to that of the French Academy. It is the one body in India competent, as embracing a knowledge of the requirements of science, together with a knowledge of the genius of the oriental languages, to give an opinion which cannot fail to carry weight in all quarters. The Society has no immediate connexion with education, but few educationalists would set themselves in opposition to a view expressed by the Society on such a point as this. For himself, Mr. Heeley continued, he did not profess to have studied the question. He knew only that scholars, such as the late Dr. Ballantyne, had thought it quite possible to form a technical language from purely Sanscrit roots, which should be equally expressive with the technical language derived from Greek and Latin roots which prevailed in Europe, and would be much more in accordance with the spirit of the people. The study, in the ver-

nacular, of a science of which all the terms are foreign, would be almost an impossibility. He concluded by inviting Mr. Campbell to draw up a proposition in terms, for submission to the Society's next meeting.

Mr. Norman doubted whether it was desirable that the Society should be asked to commit itself to the expression of an opinion on two subjects brought forward this evening. The first touches a point of great difficulty, viz. whether learning is better conveyed to the natives of this country in English or the vernacular. All scientific works are written in European languages, and it is by the medium of English alone, that such subjects as those of modern science can at present be studied. In the vernacular, there is indeed a certain amount of imaginative literature, grammar, and metaphysics, which may therefore be imparted without requiring a knowledge of English, but that is almost all: and it is a great question, whether the advantage of opening to the Native the vast storehouses of European science does not infinitely outweigh the disadvantage of his having to acquire the rudiments of his knowledge in a strange tongue. The second discussion is on a point on which no opinion of the Society can be of much value, because it can have but little effect on the result. He quite agreed with Mr. Campbell that a scientific terminology should be uniform, indeed as far possible a universal language; but were any man of mark, as a man of science, to arise among the natives, he would not be likely to obey the dictation, or even the lead of the Society; but would probably adopt a terminology of his own, and his teaching would be followed by his countrymen quite irrespective of any resolutions of this Society.

Mr. Campbell said that he had not intended any motion on this subject, but he entirely agreed with Mr. Heeley, in thinking that the questions of the terminology was one eminently within the province of this Society. "It may be a matter of comparatively little importance, from what language a technology is taken, but it is of the greatest importance that it should be uniform. You may have half a dozen equally good terms for the same thing, but if all are used, great confusion results. What is wanted, is some authority to decide in favour of one or the other. Now in India, what body is so competent to decide on a matter of this kind as the Asiatic Society? What

body would carry one tithe so much weight? We assume no despotic authority. It may be, that some Hindoo or Mahommedan greater than Linnæus may start up and impose on us a Sanscrit or Arabic technology which may scatter ours to the winds; but meantime I believe that the authority of the Asiatic Society would carry the very greatest weight, and would probably be respected in most public and private Institutions. The matter is one of very great importance, and it must be remembered that Mr. McLeod has distinctly, by the letter which has been read to me, asked our advice. On the purely Educational questions we cannot take upon ourselves to give advice; we have only done what we can, by expressing our admiration of Mr. McLeod's efforts in the cause of learning. But as respects the question of a scientific terminology, I think that we may properly respond to Mr. McLeod's invitation, by advising him one way or other. So strongly do I feel on the subject, that I beg to give notice of the following Resolutions to be moved at the next meeting. "That while the members of this Society regret that they feel themselves precluded from expressing an opinion on the purely Educational matters on which Mr. McLeod has done them the honor to consult them, they would venture to express the opinion that it is desirable to adopt for general use, the European scientific terms, for which equivalents are not found in the vernacular languages."

The Council reported that the following gentlemen were elected Trustees for the Indian Museum.

Dr. S. B. Partridge; Dr. J. Fayrer; W. S. Atkinson, Esq.; H. F. Blanford, Esq.; for the Society.

The Council reported that A. Grote, Esq. has been elected a member of the Library Committee.

The Council also reported that Baboo Protap Chunder Ghoshe is appointed Assistant Secretary *vice* Baboo Lálgopál Dutt, who has resigned.

The following letter was read—

From G. Furgusson, Esq., containing some remarks on the tower at Boodh Gya.

"Since I last wrote you, I have looked carefully into the evidence about the age of the Tower at Boodh Gya, and see no reason to doubt the evidence of the inscription given (J. A. S. B., Vol. III. p. 214,)

that the building *we now see* was erected in the first year of the 14th century. From its architecture, as shewn in the photograph you have sent me, I would have been inclined to make it even more modern; and the evidence of the "arches," as explained by Mr. Horne, is to my mind quite conclusive that it was erected long after the Mahomedan conquest. Had it been built by true Hindoos, they would not have been found there even then, but the Burmese never hated the arch so cordially as the true Hindoo. My impression of its history would be that in Asoka's time, or between that and the Christian era, the Bo tree was surrounded by a rail of the Sanchee type. At some subsequent period a "stupa" was erected, probably of a tower form; it may be by Amara, and the Lehras may be of his time; but I feel nearly quite certain that the arches were inserted and the tower took its present form in the beginning of the 14th century."

The following communications received were announced:—

1. From the Hon'ble G. Campbell "Ethnology of India" in 6 parts."

2. From Baboo Gopee Nauth Sen, An abstract of the hourly meteorological observations made in February last.

3. From Major B. Ford. "Report of Committee ordered by the Superintendent of Port Blair to proceed to Barren Islands, to enquire into the practicability of thence supplying the settlement of Port Blair with fodder, as well as to note any other product of the island that may be of scientific interest, or of benefit to the settlement."

ABSTRACT STATEMENT

OF

RECEIPTS AND DISBURSEMENTS

OF THE

ASIATIC SOCIETY,

FOR

THE YEAR 1865.

STATEMENT

Abstract of the Cash Account

RECEIPTS.

				1865.			1864.		
ADMISSION FEES.									
Received from New Members,...	Rs.	928	0 0						
				928	0	0	1,600	0	0
CONTRIBUTIONS.									
Received from Members, ...		9,445	0 0						
				9,445	0	0	8,389	10	0
JOURNAL.									
Sale proceeds of, and Subscription to the Journal of the Asiatic Society,		749	8 0						
Refund of Postage Stamps, ...		6	0 0						
Ditto of Freight, ...		2	9 0						
				758	1	0	610	4	0
LIBRARY.									
Sale proceeds of books, ...		162	12 0						
Refund of Freight, ...		29	4 0						
Ditto of Postage Stamps, ...		1	15 0						
				193	15	0	300	4	0
MUSEUM.									
Received from the General Treasury at 500 Rs. per month, ...		6,000	0 0						
Savings of salary, ...		37	13 0						
				6,037	13	0	6,515	11	6
VESTED FUND.									
Interest on Government Securities received from the Bank of Bengal, .		337	8 0						
				337	8	0	344	12	11
SECRETARY'S OFFICE.									
Sale of Postage Stamps, ...		2	4 0						
Refund of Postage Stamps, ...		23	13 0						
Ditto of Packing Charges, ...		0	8 0						
Ditto of Banghy Expenses, ...		5	7 6						
Saving of salary, ...		2	6 6						
				34	7	0	16	0	9
GENERAL ESTABLISHMENT.									
Saving of salary, ...		1	14 9						
				1	14	9	4	0	0
COIN FUND.									
Sale proceeds of Gold and Silver Coins,		236	15 6						
				236	15	6	33	0	0
A. C. L. CARLYLE, ESQ.									
Refund of the amount advanced him on the Contingent Expenses for the Museum, ...		117	11 6						
				117	11	6	280	4	9
BABU POORNOCHUNDER BYSACK.									
Refund in part of the amount advanced for the expenditure of the Museum,		762	15 3						
				762	15	3			
Carried over,...				18,854	5	0			

No. 1.

of the Asiatic Society, for 1865.

DISBURSEMENTS.

				1865.			1864.		
CONTRIBUTIONS.									
Refunded to Messrs. Colvin, Cowie and Co on account of Major J. L Sherwill's Subscription for 3rd quarter 1864, received in advance, . . Rs.	6	0	0						
				6	0	0			
JOURNAL.									
Printing Charges, ...	1,640	2	0						
Drawing plans, &c. for the Journal and Proceedings, .	559	3	0						
Engraving diagrams, &c for do. do.,	576	8	0						
Coloring diagrams for the Journal, . .	3	10	3						
Freight and Bangby expenses, .	232	1	6						
Purchase of Stamps, .	130	0	0						
Packing Charges, . . .	33	11	0						
Commission on Sale of books, .	23	10	6						
Purchase of printing paper for the Journal and Proceedings, . .	59	0	0						
Ditto for a Copy of Journal, ...	1	8	0						
Ditto for three blank books, ...	8	4	0						
Petty Charges, ...	4	7	0						
				3,272	4	3	2,264	3	0
LIBRARY.									
Salary of the Librarian, ...	840	0	0						
Establishment, ...	130	0	0						
Purchase of Books, . .	255	0	9						
Binding Books and Mounting Maps, &c	398	2	0						
Extra writer.	148	0	0						
Salary for preparing a revised Catalogue of the Library, ...	335	0	0						
Purchase of Furniture, . . .	383	0	6						
Printing Charges, . ..	10	0	0						
Purchase of a blank book, ...	2	0	0						
Freight.	24	14	3						
Landing Charges, . . .	8	4	6						
Bearing Postage, ...	1	8	0						
Commission on Sale of Books, .	12	10	3						
Petty Charges, ...	28	1	3						
				2,576	9	6	1,397	0	8
MUSEUM,									
Salary of the Curator, ...	250	0	0						
Ditto of the Sub-Curator, ...	1,200	0	0						
Establishment.	588	0	0						
Salary of Taxidermists, ...	978	9	9						
Contingent charges, ...	2,259	1	0						
Furnitures, Stands, &c.	564	13	0						
Purchase of blank books, ...	20	8	0						
Advertising Charges, ...	7	8	0						
Freight.	18	3	3						
Photographic Drawings, ...	69	0	0						
Carried over,...	5,955	11	0	5,854	13	9			

RECEIPTS.

Brought over,...Rs.				18,854	5	0	
POTITPABUN MISTRY.							
Refund of the amount advanced him on the 9th December last, ...	50	0	0				
				50	0	0	50 0 0
CAPT. J. JOHNSTON.							
Received from him in deposit, ...	0	6	0				
				0	6	0	
A. M. VERCHERE, ESQ.							
Refund in part of the amount paid on the 31st May, 1864, ...	1	0	0				
				1	0	0	
E. T. ATKINSON, ESQ.							
Refund of the amount paid on the 31st March last, ...	3	8	0				
				3	8	0	
MAJOR J. G. GOWAN.							
Received from him in Deposit, ...	10	0	0				
				10	0	0	
LT. J. WATERHOUSE.							
Refund of the amount paid 21st June last, ...	1	2	0				
				1	2	0	
GOVERNMENT N. W. PROVINCES.							
Refund in part of the freight paid for sending Journal Asiatic Society,	9	0	0				
				9	0	0	
H[illegible]ROMOHUN SIRCAR.							
[illegible] of the amount paid on the 16th May last, ...	100	0	0				
				100	0	0	
SHEIKH GULLO TAXIDERMIST.							
Refund of the amount paid on the 13th September last, ...	20	0	0				
				20	0	0	
REV. JAESCHKE.							
Sale proceeds of a copy of Thibetan Grammar on his account, ...	1	0	0				
				1	0	0	
BALANCE OF 1864.							
In the Bank of Bengal, ...	1,304	5	6				
Cash in hand, ...	5	14	7				
				1,310	4	1	

Carried over, 20,360 9 1

DISBURSEMENTS.

Brought over,...Rs.				5,955	11	0	5,854	1[illegible]	
Repairing Charges, ...				339	5	6			
Purchase of Postage Stamps,				10	0	0			
Ditto of 53 yards of Broad Cloth,				102	11	0			
Packing Charges, ...				8	0	0			
Income Tax on Curator's Salary,				52	8	0			
							6,468 3 6	6,307	8 3
MUSEUM TRANSFER ACCOUNT.									
Printing 125 Copies of the General Museum incorporation draft Act, ...				58	0	0			
							58 0 0		
VESTED FUND.									
Commission to the Bank of Bengal for drawing interest on the Government Securities, ...				0	13	6			
							0 13 6	7,063	4 4
SECRETARY'S OFFICE.									
General Establishment, ...				774	0	0			
Secretary's Office Establishment,				1,068	0	0			
Purchase of Postage Stamps,				140	5	0			
Ditto of blank books, ...				22	0	0			
Ditto of two Sheet Almanacs for 1865-66, ...				2	0	0			
Ditto of Stationery, ...				164	3	0			
Printing and Engraving Charges,				162	0	0			
Bearing Postage, ...				6	11	9			
Petty Charges, ...				10	9	6			
							2,349 13 3	2,321	1 9
COIN FUND.									
Purchase of Coins, ...				386	11				
							386 11 9	406	2 11
BUILDING.									
Assessment, ...				480	0	0			
Ditto for lighting, ...				96	0	0			
Repairing, ...				1,764	7	6			
							2,340 7 6	816	11 3
MISCELLANEOUS.									
Advertising Charges,				4	12	0			
Meeting Charges,				75	7	0			
Salary of a Mally,				57	0	0			
Fee to the Bank of Bengal for Stamping Cheques, ...				3	2	0			
Purchase of Receipt Stamps, ..				7	13	0			
Repairing old rattan mats, ...				40	3	6			
French Polishing a large Telescope-Table in the Meeting room,				45	0	0			
Petty Charges, ...				32	6	9			
							265 12 3	387	7 6
BABU POORNOCHUNDER BYSACK.									
Paid him as advance on the Contingent expenses for the Museum, .				1,045	0	0			
							1,045 0 0		
Carried over,...							18,709	11	6

RECEIPTS.

Brought over,... Rs. 20,360 9 1

Carried over, . 20,360 9

DISBURSEMENTS.

				Brought over,...Rs.	18,769	11	6		
E. B. Cowell, Esq.									
Paid Freight for sending a parcel of Bib. Indica to Messrs. Williams and Norgate, ...	5	0	0		5	0	0	27	0 0
E. T. Atkinson, Esq.									
Paid Banghy Expenses for sending a box of Books with Packing Charges,	3	8	0		3	8	0		
Capt J. Johnston.									
Paid back his deposit of the 4th March last, ...	0	6	0		0	6	0		
Lieut. J. Waterhouse.									
Paid Copying Charges on three pages of Music, ...	1	2	0		1	2	0		
Govt. N. W. Provinces.									
Paid Railway charge for sending Journal and Proceedings to Allahabad, ..	16	5	0		16	5	0	5	6 0
Col. R Strachey.									
Paid Freight for sending his books to Messrs. Williams & Norgate, London,	10	0	0		10	0	0		
J. H. Batten, Esq.									
Paid Railway freight for sending Library Books, ...	2	9	0		2	9	0		
Messrs. Williams and Norgate.									
Paid Mrs H Piddington as per their draft £39-3-7, at 2s. 6d. per rupee,	385	12	0		385	12	0	994	7 6
Hurro Mohun Sircar.									
Paid him as advance for preparing three book cases, ...	100	0	0		100	0	0		
Capt. T. Hutton.									
Paid Banghy Expenses &c. for sending a parcel of Insects to Mussoorie, .	3	0	0		3	0	0		
Capt. H. H. G. Aitsen.									
Paid Banghy Expenses, &c. for sending Library Books to Dehra Doon, ..	3	14	0		3	14	0		
Lieutenant A. Pullan.									
Paid Bearing Banghy Expenses, on a parcel of Coins sent by him to the Society, ...	9	0	0		9	0	0		
				Carried over,...	19,310	3	6		

RECEIPTS.

Brought over,...Rs. 20,360 9 1

Rs. 20,360 9 1

Examined,
PROTAP CHUNDER GHOSHE,
Offg. Assistant Secretary.

Asiatic Society's Rooms,
The 31st December, 1865.

DISBURSEMENTS.

			Brought over,...Rs.		19,310	3 6
A. G. Walker, Esq.						
Paid insufficient Postage on a parcel of books, ...		7	0	0	7	0 0
Shaik Gullo Taxidermist.						
Paid him his Salary in advance, ...		20	0	0	20	0 0
Shaik Harry Taxidermist.						
Paid him his Salary in advance, ...		103	0	0	103	0 0
					19,440	3 6
Balance.						
In the Bank of Bengal, ...		817	3	0		
Cash in hand, ...		103	2	7	920	5 7
	Rs. ...			...	20,360	9 1

Audited,

H. F. Blanford,

Rajendra Lala Mitra.

STATEMENT

Abstract of the Oriental

RECEIPTS.

				1865.			1864.		
ORIENTAL PUBLICATIONS.									
Received by Sale of Bibliotheca Indica, ...	Rs.	1,401	13 9						
Ditto by Subscription to ditto, ...		126	0 0						
Ditto by Sale of White Yajurveda, ...		38	0 0						
Refund of Postage Stamps, ...		7	8 0						
Ditto of Packing Charges, ...		0	4 0						
				1,573	9	9	2,210	8	6
GOVERNMENT ALLOWANCE.									
Received from the General Treasury at 500 Rs. per month, ...		6,000	0 0						
				6,000	0	0	6,000	0	0
VESTED FUND.									
Received Interest on the Government Securities from the Bank of Bengal,		442	8 0						
				442	8	0	452	4	9
CUSTODY OF ORIENTAL WORKS.									
Savings of Salary, ...		10	7 9						
				10	7	9	1	14	0
REV. F. KITTEL.									
Received from him in Deposit, ...		12	4 0						
				12	4	0			
VELANANDOO B. SOOBIAH.									
Received from him in Deposit, ...		1	15 6						
				1	15	6			
REV. T. FOULKES.									
Refund of Freight, ...		2	8 9						
				2	8	9			
DR. M. HAUG.									
Received from him as advance for sending Bibliotheca Indica, ...		10	0 0						
				10	0	0			
R. T. H. GRIFFITH, ESQ.									
Refund of Freight, ...		3	1 0						
				3	1	0			
PUNDIT CHHOTARAM TIWARI.									
Received from him in Deposit, ...		6	0 6						
				6	0	6			
Balance of 1864, ...		1,424	10 2						
Cash in Hand, ...		13	9 8						
				1,438	3	10			

Carried over, .. 9,500 11 1

No. 2.
Fund for 1865.

DISBURSEMENTS.

			1865.			1864.		
ORIENTAL PUBLICATIONS.								
Commission on the Sale of Books, Rs.	158	1 0						
Freight and Bangly, &c., ...	190	14 0						
Packing Charges, ...	48	8 6						
Purchase of Postage and Receipt Stamps, ...	22	9 6						
Printing Charges, ...	25	0 0						
Petty Charges, ...	11	6 3						
			456	7	3	382	0	0
VESTED FUND.								
Commission to the Bank of Bengal for drawing interest on Government Securities, ...	1	1 8						
			1	1	8	9,255	0	8
CUSTODY OF ORIENTAL WORKS.								
Salary of the Librarian, ...	360	0 0						
Establishment, ...	246	0 0						
Book Binding, ...	119	8 0						
Fee paid to the Bank of Bengal for Stamping Cheques, ...	1	9 0						
Purchase of Furniture, ...	31	15 6						
Petty Charges, ...	17	12 9						
			776	13	3	901	0	6
LIBRARY.								
Purchase of Books, ...	205	0 0						
			205	0	0	23	0	0
ASWALAYANA SRAUTA SUTRA.								
Editing Charges, ...	480	0 0						
Printing ditto, ...	896	0 0						
			1,376	0	0	288	0	0
LALITA VISTAR.								
Editing Charges, ...	618	0 0						
			618	0	0			
TARIKH-I-BADOUNI.								
Editing and Printing Charges, ...	394	0 0						
			394	0	0	884	0	0
BIOGRAPHICAL DICTIONARY.								
Editing and Printing Charges, ...	760	0 0						
			760	0	0	900	0	0
NYAYA DARSANA.								
Editing Charges, ...	308	0 0						
Printing ditto, ...	448	0 0						
			756	0	0			
TAITTIRYA ARANYAKA.								
Editing Charges, ...	288	0 0						
Printing ditto, ...	224	0 0						
			512	0	0	144	0	0
BRIHATSANHITA.								
Printing Charges, ...	902	0 0						
			902	0	0	228	0	0
Carried over, ...			6,757	6	2			

RECEIPTS.

Brought over, ..Rs. 9,500 41 1

Rs. 9,500 11 1

Examined,

PROTAP CHUNDER GHOSHE,
Offg. Assistant Secretary.

Asiatic Society's Rooms,
The 31st December, 1865.

DISBURSEMENTS.

			Brought over,...Rs.			6,757	6	2		
KAMANDAKIYA NITISARA.										
Printing Charges, ...			224	0	0					
						224	0	0	96	0 0
TAITTIRYA BRAHMANA.										
Editing Charges, ...			144	0	0					
						144	0	0	368	0 0
PRAKRIT GRAMMAR.										
Editing Charges, ...			288	0	0					
						288	0	0		
IQBAL NAMEH.										
Editing and Printing Charges, ...			956	8	0					
						956	8	0		
WIS-O-RAMIN.										
Editing and Printing Charges, ...			96	8	0					
						96	8	0	1,168	0 0
NARADA PANCHARATTRA.										
Printing Charges, ...			232	8	0					
						232	8	0		
MIMANSA DARSANA.										
Printing Charges, ...			237	0	0					
						237	0	0	349	0 0
AYEEN-I-AKBARI.										
Charges for bringing Manuscript of do.,			18	5	0					
						18	5	0		
COPYING MSS.										
Copying Charges, ...			6	8	0					
						6	8	0	14	10 6
R. T. H. GRIFFITH, ESQ.										
Paid freight for sending a parcel of Bibliotheca Indica, ...			3	1	0					
						3	1	0	3	3 0
PUNDIT CHINTARAM TIWARI.										
Paid him in part on his deposit, ...			2	8	0					
						2	8	0		
DR. M HAUGH.										
The value of Bibliotheca Indica sent to him, ...			9	6	0					
						9	6	0		
BALANCE.										
In the Bank of Bengal, ...			519	8	6					
Cash in hand, ...			5	8	5					
						525	0	11		
			Rs.		...	9,500	11	1		

Audited,
H. F. BLANFORD,
RAJENDRA LALA MITRA.

STATEMENT No. 3.

Shewing the Assets and Liabilities of the Asiatic Society at the close of 1865.

ASSETS.

CASH.

		1865.	1864.
In the Bank of Bengal, ...	Rs.	817 3 0	1,304 5 6
Cash in hand, ...		103 2 7	5 14 7
Government Securities, ...	...	6,500 0 0	6,500 0 0
Rs.		7,420 5 7	7,810 4 1

OUTSTANDING.

Contributions, ...	5,793 7 11	5,811 14 11
Admission fees, ...	480 0 0	416 0 0
Library sale of Books, ...	537 10 9	445 2 0
Journal Subscription, ...	568 4 0	538 2 0
Ditto sale of, .. .	107 10 3	284 14 3
Government allowance for Dec., 1865,	500 0 0	500 0 0
Rs.	7,987 0 11	7,996 1 2

LIABILITIES.

		1865.	1864.
Hon'ble Sir J. W. Colvile, Kt. for amount deposit on his account, .	Rs.	276 8 0	276 8 0
J. W. Laidley, Esq. for ditto ditto, ...		418 7 4	418 7 4
Salary Establishment and Contingent Charges, ...		1,000 0 0	755 0 0
Subscription to the Oriental Translation Fund, ...		630 0 0	525 0 0
Printing Journal and Proceedings, &c. about, ...		3,559 7 0	1,260 8 0
Bird Catalogue Binding, ...		42 4 0	42 4 0
Messrs. Williams and Norgate for Books supplied as per their account up to 30th June, 1865, ...	510 0 0		
Ditto probable calculated amount for Books supplied from 1st July to 31st Dec. ...	500 0 0		
		1,010 0 0	
Messrs. Higgs and Halder for repairing Society's Premises, ...		1,844 0 0	
Rs.		8,780 10 4	3,277 11 4

Asiatic Society's Rooms,
The 31*st December,* 1865.

Examined,
PROTAP CHUNDER GHOSHE,
Offg. Assistant Secretary.

Audited,
H. F. BLANFORD,
RAJENDRA LALA MITRA.

STATEMENT No. 4.

Shewing the Assets and Liabilities of the Oriental Publication Fund at the close of 1865.

ASSETS.		1865.		1864.	
In the Bank of Bengal, ...	Rs.	519 8 6		1,424 10 2	
Cash in hand, ...		5 8 5		13 9 8	
Government Securities, ...		8,500 0 0		8,500 0 0	
Bibliotheca Indica sale & Subscription,		1,583 15 9		1,432 12 9	
Major W. N. Lees, advance for printing Bib[illegible]l Dictionary, &c. ...		140 0 0		1,200 0 0	
Government allowance for Dec. 1865,		500 0 0		500 0 0	
Rs.		11,249 0 8		13,071 0 7	

LIABILITIES.		1865.		1864.	
Establishment and Contingent Charges for December, 1865, ...		50 0 0		50 0 0	
Editing Charges due for work not yet completed, about, ...		800 0 0		1,600 0 0	
Printing Charges about, ...		3,400 0 0		3,601 2 0	
Major W. N. Lees, printing and editing Charges about, ...		900 0 0		1,192 0 0	
Deposit, ...		146 13 0			
Rs.		5,296 13 0		6,443 2 0	

Asiatic Society's Rooms,
The 31st December, 1865.

Examined,
PROTAP CHUNDER GHOSHE,
Offg. Assistant Secretary.

Audited,
H. F. BLANFORD,
RAJENDRA LALA MITRA.

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR JULY, 1866.

The Monthly General Meeting of the Asiatic Society of Bengal was held on Wednesday the 4th Instant.

A. Grote, Esq., senior member, in the Chair.

The proceedings of the last meeting were read and confirmed.

Presentations were announced—

1. From Major B. Ford, a box of mineral and vegetable specimens from Barren Island; the paper announced at the last meeting accompanied the donation.

2. From V. J. Carey, Esq. a sketch of a perforated stone found on a "Chaboutra" at Jubbulpore. Plate I.

The following letter accompanied the donation.

"*Jubbulpore, 4th June,* 1866.

"DEAR SIR,

"Since my writing to you in January, I have found four or five 'Celts' of the smooth later stone age, and also two of these perforated stones. A sketch of one I send you, natural size. I found these on a 'Chautra' or Chaboutra, on which they place stones for the worship of 'Mahádeo.' On these 'Chautras' I find 'Celts,' and about this part of the country Celts are not found except on them, or may be a chance one in a temple.

"Several of these perforated stones have been found by different members of our staff along the line. Each have their own interpretation. I fancy they are mauls or hammers. I had one as small as

this.* Kindly let me have your idea of what they were meant for and oblige

"Yours faithfully,

(Sd.) "V. JAMES CAREY."

Mr. Blanford said that the sketches were those of stones similar in character to specimens that had been found accompanying the relics of the later stone age in Europe; and also those of the bronze age; but the latter were frequently of a different material, viz. earthenware. They were regarded by archæologists as spindle-whorls, *i. e.* weights attached to a stick to give it sufficient rotatory inertia to spin fibres, whether for weaving or net-making. Some archæologists thought that the earthenware specimens were also used as weights for nets. It was interesting to find these in India, as well as the flint hatchets of the smooth type. But it was much to be desired that the circumstances under which these relics occurred *in situ* could be ascertained. These early antiquities were, however, exciting much attention in Central India, and he hoped that before long some evidence on this head would be brought to light. He had strong hopes that the exertions of the Nagpore Society would facilitate this; Mr. Carnac, the Secretary, took much interest in these discoveries, and he believed that others besides that gentleman and Mr. Carey were giving their attention to them.

3. From Rájá Kálly Krishna Báhádoor, a copy of a "General list of native implements, &c. for the Paris Universal Exhibition for 1867."

4. From S. Jennings, Esq., a specimen of an *Aprosmictus scapulatus* (King Parrot) of Australia.

5. From W. C. Taylor, Esq., C. S., a large collection of Insects, chiefly from Darjiling.

6. From D. Waldie, Esq. some pseudomorphs of Peroxide of Iron after Pyrites.

With reference to this presentation, the donor made the following remarks:—

"The mineral crystals presented to the Society are pseudomorphs resulting from the conversion of iron pyrites or bisulphide of iron into peroxide of iron, and are interesting from exhibiting the change in

* Referring to a pen-and-ink sketch of a stone of the same form as that figured on Plate I. but measuring only 2 inches in diameter and ½ inch in thickness.

various stages of its progress. Simple oxidation would convert sulphide of iron into sulphate of iron, and the only way of accounting for the farther change into peroxide is by the action of bicarbonate of lime, or even bicarbonate of magnesia, or of the alkalies in presence of excess of carbonic acid and water, by which the sulphuric acid is removed in combination with the earth or alkali. By such a process peroxide of iron would be left in combination with water. This is the explanation given by Bischof in his Chemical Geology, (Cav. Soc. Trans., Vol. III, p. 452), in which he cites observations corroborative of the theory, and also notices the observations of others (Ullmann and Sillem) in which red hematite or anhydrous peroxide was found completely or partially in place of brown hematite or the hydrated peroxide, giving it as his opinion that the production of red hematite takes place subsequently to that of hydrated peroxide, and not directly from iron pyrites.

"These crystals exemplify these changes. Some of them consist of peroxide of iron only, with some water and a little siliceous earth: one crystal gave 2.0 siliceous, 4 78 water, and the remainder peroxide of iron. As brown hematite contains 14.76, and another hydrate 10 36 p. c. of water, the above is evidently a mixture of hydrated and anhydrous peroxide. Some of the crystals contain a few small bright specks of sulphide of iron, others a large hard nucleus of the same. One crystal when broken was observed to be partially hollow, and the matter in the centre was soft and of an ochry appearance, very probably in the state of subsulphate. They are in the state of well formed isolated cubical crystals. It would have been interesting to have known the particulars of their locality and probable origin, and application was made for these particulars, but without success. I only learned that they were found in India, on the surface of the ground."

The following gentlemen, duly proposed and seconded at the last meeting, were balloted for, and elected as ordinary members.

A. Anderson, Esq: M. H. Ormsby, Esq.; J. I Mathews, Esq.

Letters from J Strachey, Esq, C. S, J. M. Scott, Esq., J.C. Sarkies, Esq, Baboos Jodunauth Mookerjee and Kally Prosono Dutt, intimating their desire to withdraw from the Society, were recorded.

The following letter from E. Thomas, Esq. and notice of an address delivered by the writer at the Royal Asiatic Society, were read.

"10*th May*, 1866.

"MY DEAR GROTE,—I enclose you a slip report of a small lecture which I gave on the spur of the moment (in default of other papers) at the Royal Asiatic Society.

"The subject is one of considerable interest, and it is singular that all and every bit of evidence should tend to the same end. The result, however, is only exactly what we were fully prepared for, *i. e.* that the Aryans left their early homes long *after* the other nations of the world had achieved a large amount of civilization. The only point of peculiar interest to *us* Indians is the course of the Aryan alphabets downwards. I am quite clear about the Bactrian adaptation from the Phœnician, and am equally convinced of the originality of the conception of the Lât alphabet, which was *primarily* designed for Dravidian or Scythic forms of speech. I have been collecting proofs of this for some time past, and each fresh enquiry the more and more confirms my early impression! But I am anxious to learn all that can be said against my position, which I am, however, quite prepared to abandon on proof of error. If you can elicit any discussion on the point, it may enlighten us all! and your observations will reach England long before I shall be in a position to *print*, even if I do *write* anything beyond what I have already *said!*

E. B. THOMAS."

The following is the printed extract enclosed in Mr. Thomas's letter:—

"The following are the positions laid down by Mr. Thomas as the result of his palæographical investigations:—The Aryans invented no alphabet of their own for their special form of human speech, but were, in all their migrations, indebted to the nationality amid whom they settled for their instruction in the science of writing. 1. The *Persian Cuneiform* owed its origin to the Assyrian, and the Assyrian Cuneiform emanated from an antecedent Turánian symbolic character. 2. The *Greek* and *Latin* alphabets were manifestly derived from the Phœnician. 3. The *Bactrian* was adapted to its more precise functions by a re-construction and amplification of Phœnician models. 4. The *Devanágarí* was appropriated to the expression of the Sanskrit language from the pre-existing Indian Páli or *Lât* alphabet, which was obviously

originated to meet the requirements of Turánian (Drávidian) dialects. 5. The *Pehlvi* was the offspring of later and already modified Phœnician letters; and 6. The *Zend* was elaborated out of the limited elements of the Pehlvi writing, but by a totally different method from that followed in the adaptation of the Semitic Bactrian. Mr. Thomas then proceeded to advert to the single point open to discussion, involved under the fourth head, tracing the progress of the successive waves of Aryan immigration from the Oxus into the provinces of Ariana and the Hindú Kush, and the downward course of the Pastoral races from their first entry into the Punjáb, and the associate crude chants of the Vedic hymns, to the establishment of the cultivated Brahmanic institutions on the banks of the Sarasvatí, and the elaboration of Sanskrit grammar at Taxila,—connecting the advance of their literature with the simplified but extended alphabet they constructed in the Arianian provinces out of a very archaic type of Phœnician, and whose graphic efficiency was so singularly aided by the free use of birch bark. This alphabet continued in use as the official writing under the Greek and Indo-Scythian rulers of Northern India, until it was superseded by the superior fitness and capabilities of the local Páli, which is proved by Asoka's scattered inscriptions on rocks and monoliths (*Láts*) to have constituted the current writing of the continent of India in B.C. 250; while a similar, if not identical character is seen to have furnished the prototype of all the varying systems of writing employed by the different nationalities of India at large, from Sind to Ceylon, and spreading over Burmah, till the Indian Páli meets Chinese alphabets on their own soil in Annam. In conclusion, Mr. Thomas pointed out the importance of the discoveries of Norris and Caldwell, derived from completely independent sources, regarding the Scythic origin of the introductory Indian alphabets."

Mr. Campbell said he would gladly have left the honour of the Hindus in the hands of the learned Bábu opposite, but in default of any one more competent, he would make one or two observations. It appeared to him that the Nagaree character was very much adapted to the Sanscrit and Hindee languages. We found how different it was when we try to express these tongues in Roman or Persian characters. If then the Nagaree character was not invented for

Sanscrit, it must have been adapted for its use in a remarkable way. He did not feel competent to take upon himself to deny that the character may have been borrowed from others. But as respects the original inventors suggested by Mr. Thomas's theory, he felt inclined to protest against the loose way of using the terms 'Dravidian,' 'Turanian,' and 'Scythic,' as if synonymous. He was aware that Max Müller had classed two-thirds of the world under the broad designation of 'Turanian,' but he found that other great authorities objected to the classification as too sweeping, and as including in a common term several widely different families. Whoever may have first invented letters, he felt great difficulty in believing that the discovery was due to the Dravidian ancestors of the barbarous Gonds and Khonds, Dhangars and others, who, speaking ancient Dravidian tongues, were themselves to this day without a written language. On the whole subject, we were still very much in the dark. If he had himself a half-formed theory, it inclined to this: that if in fact the Hindus came in contact with another civilisation already possessed of a Páli language and letters, the latter should rather be attributed to some old Western immigration by sea, in the days of the most ancient Egyptians and Phœnicians and their contemporaries. Max Müller had made clear to us the character of the Arian religion. The gods of the Arians are above, and they descend to the earth in occasional incarnations. But there is still very prevalent in all the west of India, and in several forms, another religion, that worship of the procreative power of the Phallus or Lingam, which seems to be the earliest development of the modern idea of the natural progression of type, and which the Buddhists and Jains have carried forward by their system of gradual perfectibility, raising man from below nearly to the rank of a god. That belief in natural progress, from below upwards, seemed to him (Mr. Campbell) to be in opposition to the Arian beliefs in gods descending from above: they were two widely separate types of belief, and his suggestion would be, that any civilisation and any letters which preceded the Hindus in India, may have been brought in from the west, in company with the worship of the Phallus and the doctrines which have sprung from it. But in truth we seemed to be as yet but on the threshold of knowledge of the earlier inhabitants of the world. The Society must be greatly indebted to Mr. Thomas for his

communication, and it was most desirable that it should be circulated and farther discussed.

Bábu Rájendralála Mitra said he had not well heard the paper, and could not therefore then enter in detail into the question involved in it, which was one of great importance. The historical evidences which had hitherto been collected, all tended to show that the Arians were one of the earliest civilized of the human races, and that they brought their civilization and social arts from the plateau of Central Asia to the plains of India; and as one important element of civilization was the alphabet, it was difficult to suppose that they borrowed it from the aborigines of the south, whom they described as Dasyus, barbarians and monkeys, and who unquestionably were in a state of mental culture far below that of their conquerors.

The Rev. Mr Banerjea thought that the papers just read should be circulated. He had no great acquaintance with the Dravidian languages, but had made several visits to Madras, and had thus gained some knowledge of their alphabets. He thought that Mr. Thomas's theory should have been more precisely stated. Which alphabet did he mean—the Tamil or the Teloogoo? The former was as imperfect as the latter was irregularly exuberant. The Tamil admitted no sounds such as *kh*, *gh*, *bh*, *dh*, and had no *distinctive* character for *g*, *d*, or *b*, the letters *k*, *t*, or *p* doing duty for them in certain positions. The Teloogoo's exuberance itself was a proof of its being a descendant of Sanscrit—the additional letters standing simply for rude aboriginal sounds. It is not probable that the rich Arian alphabets were derived from one so poor as the Tamil. The Telegoo is evidently an offshoot of Sanscrit. Moreover the aborigines of the country, the Gonds, &c., have no alphabet.

He would not, however, go so far as to say that the invaders had borrowed nothing from the aborigines. On the contrary, he thought that some portions of their worship, especially that of Shiva, had been so adopted.

In accordance to the notice given at the last meeting, the Hon'ble Mr. G. Campbell moved—

"That while the members of the Society regret that they feel themselves precluded from expressing an opinion on the purely educational

matters on which Mr. McLeod has done them the honour to consult them, they would venture to express the opinion that it is desirable to adopt for general use the European scientific terms for which equivalents are not found in the vernacular languages."

In introducing the motion, he observed as follows :—

"I would beg to call attention to the exact words of my motion. I direct it solely and entirely to terms which are not found in the vernacular languages. I do not suggest the substitution of European for vernacular terms, where the latter exist: I only say that when there is no vernacular word to express the meaning of anything or any idea which education and civilisation have introduced into India, it is better simply to adopt a widely known and easily used European term, than to coin an artificial and affected new word from the Oriental classical languages. When the subject was mentioned at the last meeting, it appeared that some gentlemen might doubt the propriety of my motion on one or other of two grounds—first, several gentlemen seemed to think that the subject was not one proper to be discussed and determined by this Society; and a smaller number of gentlemen seemed to prefer the coining of Oriental to the adoption of European terms. As respects the first objection, I repeat that while we can dictate to no one, it appears to me that, to secure uniformity of practice, nobody is likely to exercise such moral weight as this Society. And it is no mere theory that I uphold. It is a matter of pressing practical importance. Sir D. Macleod speaking as Lieutenant-Governor and officially addressing the representatives of the founders of the first Oriental University established in India, has deliberately urged them to eschew European terms, and to adhere to Oriental models in their scientific technology. This advice is almost a command, and once adopted, it may long be thought necessary to follow it. I doubt not that, whatever may be said, the greater convenience of simple and universal European terms, and the great preference for them exhibited by the Native Public, will eventually lead to their adoption; but meantime there may be great divergence and discordance, and much harm may result. Sir D. Macleod himself has sought our advice, and the Council has placed before us the address which contains his emphatic declaration in favour of Oriental terminology, and made it the subject of a vote of thanks. There is no doubt

that the address tends very much to the ideas of the Orientalist party, and that we sail very near the wind in thanking Sir Donald Macleod for it, without pledging ourselves to that side of the question. But having done so, and our advice having been asked, I think we may well go on to say whether we do or do not concur in certain Ultra-Orientalist advice on a subject, falling, as I conceive, very much within our province.

"On the merits of my proposition, it seems to me that in scientific terminology, of all things, uniformity of nomenclature is most desirable. Ideas wholly new to India must be represented by words new to India. But the vernacular languages have a singular genius for adaptation, and the people are most ready to adopt, and do daily adopt, the convenient terms which we offer to them, together with our new ideas. Is it not then better to permit them to do so, than to say 'No, don't condescend to borrow from us, don't defile your language with our barbarous words, go to Sanscrit and Arabic, and thence concoct compounds and abstruse derivatives, and affix a meaning to them which, if people do not understand, they may be made to understand?' It seems to me that such advice comes less becomingly from us English than from any people under the sun. For what is our own language, of which we are now so proud, but the most polyglot in the world? How have we raised it from a savage jargon to one of the most copious, useful and practical of languages, but by taking all the higher words from foreign languages, wherever we have found them good and suitable? There are some excellent observations on this subject in a paper published by the Society in their Journal since the last meeting, a paper on the Hindustanee by Mr. J. Beames. As he says, "English, by ready borrowing and making good use of its borrowed stores, has raised itself from an obscure low German *Patois* to the most extensively used medium of communication between distant countries." And he draws a capital comparison between English which has thus freely borrowed, and German which has attempted to progress by combinations of indigenous words, rather than by borrowing. He shows us that while English, abounding in words which, though of foreign extraction, are now part of the language, and are concise, clear and easy, uses them with facility and effect, German has become entangled in a mass of horrible long

words, which make the language a caution to the world. He gives us specimens of these terrible words which I dare not attempt even to approach, and which make one shudder to look at them, and he compares them with their simple English equivalents. In fact the German language is the greatest possible obstacle to access to German thought. Radically our language is the same as German, and totally different from French. Yet how much more easy it is for us to learn to read French than German, and how many more of us do so! Why is this? Solely because, commencing by borrowing our terminology from a common source with the French, it has gradually come about that these two languages, originally so different, have now all the higher and more difficult parts of their vocabularies practically common to both—while English and German, originally so similar, have now wholly diverged in respect to all the higher portions of the languages. It is wonderful how few are the radical words of a language. It is said that an English ploughman uses only from 500 to 1000 words altogether, that is the original English vernacular. The language has now expanded, as we know, to very many thousand words, chiefly by dint of borrowing. It may even be that the question raised by Sir D. Macleod is, whether the vernacular languages of India are to follow the German or the English course; whether by compounding from the Sanscrit they are to render themselves as impracticable as the German, or whether, by borrowing, they are to become as convenient and cosmopolitan as the English.

"Nay more, I believe that a greater question lies behind, the whole subject of inter-communication between the two races. I am one of those who believe that India will never be governed by an English Government to the satisfaction either of the Governors or the governed, till the two races draw together much more than they now do or than they now tend towards. A chief difficulty is divergence of language. We have discussed the great question of the use of English or of the vernacular in education. May there not some day be a compromise,—not in our day, but in those of our descendants—in the use of a vocabulary in a great degree common to both languages? The Vernacular radicals will probably never be abandoned, but may they not be overlaid by a common language, which may approximate them to English and to one another, as English and

French have been approximated? I believe that the question before us involves that issue. Scientific terminology may not seem so important, but it is well remarked in the last number of the *Quarterly Review*, that we scarcely know how far the ordinary words of to-day were the technical terms of another age. To whom does it occur, says the Reviewer, that such English words as 'judge' and 'guard' were originally technical Norman terms? 'Beef' and 'mutton' and many others are more palpable. My hope then is that the day may come, when the great mass of the higher words used in the vernacular languages may be derived from the European sources, from which the natives are so prone to draw—that thus a language to a great degree cosmopolitan may be formed, and that then a man who desires to learn one of the native languages, may have but to acquire the 500 or 1000 words used by the Coolie, with the simpler parts of his grammar, and, so much learned, he may find that almost all the rest he knows already—that he has mastered a polite and copious language. Such a consummation would, I am sure, do more than anything to draw together the educated and intelligent of the different races.

"Meantime, however, my motion is confined to the advice to be given to Oriental Colleges in regard to their scientific terminology, and in the belief that it is better to adopt than to manufacture new terms; and I submit my motion to the meeting."

Mr. G. M. Tagore said,—"Mr. President, with your permission I should like to make a few observations. In my humble opinion, the history of the Sanscrit College of Calcutta powerfully illustrates and throws considerable light on the point under discussion.

"If I recollect right, one of the main objects of that institution was, not merely to encourage oriental learning, but also to convey a knowledge of the European sciences in an oriental garb and through an oriental medium. The Sanscrit College in time, as you know, became the debatable ground between the Anglicists and the Orientalists of that period. Its failure as an institution for conveying a knowledge of the European sciences is now acknowledged by all parties, and that failure, in my opinion, proves the necessity of a new terminology (or technology if you please) upon a new basis. Therefore the most important question in connection with this evening's discussion is, to

have an adequate notion of the basis upon which it is to be built. It has always occurred to me, that a new terminology cannot be introduced into a nation, without a strict adherence to what I should say on organic as contradistinguished from a mechanical law: that is to say not by a law of superposition, but by a law of incorporation. And the great test by which we are to detect whether such a law has been observed or not in any particular case, is by an appeal to the consensus of the nation, or in other words, to its invisible consent. To explain myself:—

"A living language, as a great writer has said, is one in which a vital formative energy is at work; and in the course of its evolution, it appropriates and incorporates to itself what it anywhere finds congenial to its own life, multiplying its wealth and increasing its resources, not by an evanescent and sporadic process, but by a fixed and an organic law, casting off from its vocabulary cumbrous forms and useless and uncongenial words, and by a reactive energy rejecting from the body of the language the foreign and the heterogeneous, which through conquest or other intercourse may have been forced upon it. Many foreign words have been introduced into our language under the above process, and many also rejected. For example the word *jahaz* (which is a foreign word) is used in preference to *nauka* for a ship. The word *nauka* in common parlance means boat. I cannot do better than quote the striking observation made by the Rev. K. M. Banerjea in his *Encyclopædia Bengalensis*.

"'Where words are required that are not in common use, I draw from the Sanscrit, if that can be readily done without having recourse to far-fetched inventions. Where an idea can be easily expressed by a Persian or Hindustani word already current, I make no scruple to adopt it, in case no Sanscrit or Bengali word can be found equally apt for the purpose. Where Persian or Hindustani words have been almost naturalised in Bengali, I do not fastidiously reject them, even though there may be corresponding Bengali words with the same meaning. In such cases I use the Bengali and the Hindustani indifferently, only taking care not to shock my readers by disregarding their taste in this respect. The word *thousand*, for instance, I have sometimes translated by *házar*, sometimes by *sahasra*. It is, I think, an advantage where foreign words may be introduced into a language

such as the Bengali now is, consistently with perspicuity, and without shocking the national feelings of the people. This is, I think, the legitimate way of enriching the vocabulary of such a language. Where a Sanscrit word, though expressing originally the idea I intend to convey, has, by the lapse of ages, obtained a different signification, I do not hesitate to use some popular term, having the same meaning, though it may be of foreign derivation. I have for instance generally translated *ship* by *jahaz*, though this is neither Sanscrit nor Bengali, because the Sanscrit *nauka* though exactly corresponding to the Latin *navis*, is now used in Bengali to express a *boat* rather than a *ship*.

"'Scientific terms I borrow from the English, when the Sanscrit fails to produce any either ready made or capable of being easily invented. In Geometry and Algebra, however, I have scarcely experienced any difficulty in procuring terms, since the Sanscrit vocabulary here is very full.'

"'Then again: *Rail-garry* is used in preference to *Loha ka gharry*.'

"In connection with the present subject, I cannot help alluding to a class of men who ought not to be unnecessarily dragged to the notice of a purely scientific Society, I mean the Indian Missionaries. They would have succeeded to a much greater extent in their proselytising efforts, and would have attracted far greater sympathy from the natives, if they had been careful and provident in the adoption of a proper theological terminology.

"For example, if instead of naturalizing the word *baptism* in the native Christian vocabulary, they had used the far more expressive correlative of the word in Sanscrit namely *sanskara*, they would have found a certain meeting-place or common ground between Christianity and Hinduism. The introduction of a new word is often an important event in the history of a nation: what Milton said of books, might well be said of words: 'They contain a progeny of life which is treasured up in a vial to a life beyond life.'

"I fully sympathise with Mr. Justice Campbell's remarks, as to the antagonism between the two races in this country, the Native and the European. I could only wish that the European members in this assembly could fully dive into the depth and the intensity of his expressions. If by the use of a common terminology we could bridge over this unnatural unchristian gulf of separation, I should with all

my heart, and in the intensity of my Christian feeling, say God-speed to it. But I am afraid the scheme will fail, unless it were tested by and introduced in conformity with the consensus of the nation. And that last spark of liberty which this country has, will never yield either to the influence or to the tide of conquest, save and except under a law peculiar to itself."

Bábu Rájendralála Mitra said: "I regret much the necessity that has placed me in opposition to my learned and respected friend, the honorable mover of the resolution; but I cannot conscientiously give my support to the proposition, that the scientific terminology of England should be introduced bodily into vernacular books. Such a measure, in my humble opinion, cannot but prove highly injurious to the spread of European science in this country. The subject is not a new one. It has engaged the attention of Anglo-Indian educationists off and on for the last forty years, and many and very contradictory have been the opinions put forth about it. Dr. Tytler, who had charge of a vernacular medical school some time between 1820 and 1825, maintained that European scientific terms could not be translated into the vernacular. He accordingly published a series of plates and text-books on anatomy with all the Latin names, such as *musculi adductores digiti minimi*, *musculi crico-arytænoides laterales*, all beautifully transliterated, and in the process, I may add, completely murdered, in Persian characters. This was rebutted by Mr. Felix Carey, who, in a portly volume on anatomy, showed that all the Latin terms could be with perfect ease rendered into Bengali. The late Pundit Madhusudan Gupta at the same time translated Hooper's Vade Mecum, in which all the European terms were represented by Sanskrit equivalents. Certain Missionary gentlemen were also, about the same time, engaged in a discussion as to whether the technical terms of the Bible should be transliterated or translated in the Bengali, and a Committee, consisting of Dr. Wilson, Dr. Mill, the Rev. Mr. Morton and some others, reported in favour of translation, and laid down some definite and very judicious rules on the subject. Next came Mr. Boutros of the Delhi College. He would listen to no translation, and obtained the permission of the then General Committee of Public Instruction to introduce English terms in a series of Urdu school books which he compiled for his college; but they all fell still-born from the press.

and never were touched beyond the four walls of the college premises. Ten years after him, Dr. Ballantyne of Benares brought his extensive learning and ripe scholarship to bear upon the vexed question of Indian technical terms, and ended by publishing a treatise on Chemistry, the most technical of all the sciences of the present day, with the whole of its terms rendered into correct Sanskrit. Since then, the practice in Bengal has been uniformly to translate foreign terms, and all our school books (and the Calcutta School Book Society issues a hundred thousand volumes every year) are produced on that principle. There are however, a few exceptions. I allude to the publications of the vernacular branch of the Calcutta Medical College. There transliteration is the rule exclusively, and in some of them their authors go the length of bodily transcribing such words as a hot bath and a sand bath, and produce in Bengali letters *haṭa bátha* and *sánda bátha*, as if the native languages had not words enough in their vocabularies to indicate hot water or sand or a bath. To an Englishman a sand bath may not be an ordinary everyday thing, but there is not a village boy in the obscurest part of India who has tasted a handful of parched rice, who does not know what a sand bath or a *bálir kholá* is. A learned Professor of the College, himself a native of this country, gravely told me the other day that the hot bath implied a certain fixed amount of heat, which the translated word would not imply, as if in English or even in Medical phraseology the word hot implied a fixed degree of Fahrenheit's thermometer and no other. Sir, the resolution before the meeting, if adopted, would in a manner place the imprimatur of the Society on this folly of *haṭa bátha*. If it be desirable to encourage the study of the sciences and to naturalize them in India, we must make them easily accessible, and bring them home to every man's mind. We must offer them in simple and homely forms, clothed in the easiest language and divested as much as possible of mystical formula and jaw-breaking foreign terms. By adopting the terminology of Europe in vernacular books, we do the very reverse of this. We offer a set of words, many of which, to the generality of the people, will appear in so transmontane an aspect, that they will be taken more for mantras, or charms and incantations for driving away ghosts and overcoming evil spirits, than sober terms for indicating natural phenomena and every-day occurrences and

objects. For the people at large to pronounce them correctly would be a tremendous task, and to understand them accurately an impossibility. And it will readily be admitted that whatever increases the difficulty of acquiring the terminology of a science, tends likewise to disgust the student and render it unpopular. This has of late been greatly felt in England, and attempts are being made to divest popular books as much as possible of hard and not easily intelligible technical terms. To Englishmen Greek and Latin words twisted and turned and shaped on the lathe of the English Grammar, do not appear so foreign and difficult as they must be to the natives of this country, and yet to the former we scruple to offer that which we propose to drive down the throats of the latter. I am not insensible to the advantages of uniformity. I readily admit the great benefit which science would derive by having a common terminology the world over. But a universal terminology is not a universal language, capable of bringing together the different nations of the earth to one brotherhood. The one is, however, as Utopian and impracticable as the other. The nations of Europe, all drawing their terminology from Greek and Latin roots, have failed to secure uniformity. The genius of the different languages have so masked and transmuted the same words, that to people uninitiated in the mysteries of those languages, they appear totally different. To an Englishman unacquainted with French, the chemical terms of France are as unintelligible as those of Germany. But there is another agency at work more potent than the genius of a language, to promote and maintain the divergence of human tongues. It is the climate. However startling it may appear at first sight, it is as true as the sun will rise to-morrow, that the six consonants apiece of the Russian and the sibilants of the English which we have to "hiss, spit and sputter all," owe their origin mainly, if not solely, to climatic influence. That influence in India has given a soft flabby character to the vocal chords, which will always stand in the way of a correct pronunciation of English words in this country. No more will English blood maintain its English character for three generations successively in this land, than English words maintain their speciality. The climate will tell as unmistakeably and as surely on the one as on the other. In less than a century, English

words in the mouths of the natives will be so far Indianised as to be almost unrecognizable by an Englishman. The English omelet is with the native cook a *mamlet* and the haricot mutton a *haṛi kabáb*. I wonder what the triple phosphate, tri-ethyl-emyl-platino-phosphonium will sound like in a purely Punjabi mouth, even if the boasted perfection of the Sanskritic alphabet could reduce it to writing without murdering its character. But supposing, for the sake of argument that English scientific terms could be reproduced by Indian alphabets and preserved unchanged in the vernaculars, what would be the advantage gained by importing them? We could not hold converse with, or convey our thoughts on any scientific subject to an European, on the strength of a common terminology, without knowing his language. A few idle teachers are all that would benefit by the proposed measure, and they are the last to be pitied. The primary, the great, the only object of technical terms is to systematise science, and thereby to facilitate the acquisition of knowledge; to that must be sacrificed all other considerations; and inasmuch as a nation learns the terminology of a science more easily in its own mother-tongue than in a foreign language, the vernacular is the best material with which to prepare its scientific terms. It is true that those terms are mere names, and "all names," according to Hobbes, "are words taken at pleasure to serve for a mark, which may raise in our mind thoughts like to some thoughts we had before, and which being pronounced to others, may be, to them, signs of what thoughts the speaker had, or had not, before his mind;" and as such, English words may serve as signs to the Indians quite as well as native words. But scientific terms have something more to do than serve as mere signs. They are not proper names, or what the logicians call "non-connotative" terms, arbitrarily assigned to particular objects. They do not, like Mr. Black or Mr. White, indicate particular individuals by arbitrary assignment, without regard to the power of the words as expressive of blackness and whiteness. They are emblems intimately associated with their original meanings; they are like the *sutras* of our revered Rishis, intended to convey a whole train of ideas by a few expressive signs. The moment they cease to convey those ideas, they cease to be scientific terms, and become the jargon of the cabalists. Chemistry became a science only when Lavoisier and his co-labourers reduced it

to a uniform and most beautifully expressive terminology. Take that terminology away and chemistry will again be what it originally was. The alchemists knew a great many facts in chemistry; they knew all the principal metals and most of the nonmetallic bodies. They knew them and their compounds well, but they called them brothers of the moon and sisters of the sun, or some such names, and used them as mysteries and delusions. We designate them by words which at once tell us exactly what they are and of what things composed, and we convert alchemy into a science. Let our per-nitrate of iron and sesqui-oxide of manganese cease to connote to our minds the different components of the articles we allude to, and they cease to be instruments of science, and become as unmeaning gibberish as the "sisters of the sun" and the "brothers of the moon." To the natives of India those words must necessarily be perfectly unintelligible, and therefore, if imported bodily into our vernacular books, they cannot but for us altogether destroy the beautiful simplicity and precision of chemistry as a science, and reduce it to the level of a juggler's art. And what is true of chemistry, will be true of most other sciences. Will Mathematics or Botany remain sciences to us, if we be called upon to work mathematical propositions without understanding such terms as lines and angles and arcs and trapeziums? or recognise plants, if we understand not what are petals and sepals and anthers and pollen?

"But perhaps my position will be admitted, and it will be said that the vernaculars are not rich and pliant enough to admit of the formation of sufficiently expressive scientific terms. This, however, I deny. Every experiment that has been made in this country on the subject, has proved the contrary. I am told it was said at the last meeting that such words as galvanism and electricity could not be translated into Bengali. But I can see nothing in them which need frighten us in the least. The word galvanism is a most unfortunate instance to quote. If it indicates anything it shews that we have not yet got a more expressive term in the English language to connote certain electrical phenomena than a non-connotative word, the name of an Italian physicist. As for electricity it simply means 'relating to amber' or *electron* the Greek name for amber. It has nothing to do with the various phenomena which

the modern science of electricity teaches us. We have a word for amber, but what could be a better word to indicate those phenomena than the native term for lightning? Then there are other terms in English which are positively wrong. Oxygen was the sole generator of acids as long as the composition of the hydrochloric acid was not known. A vegetable alkaloid, on the principle I suppose of 'Lucus a non lucendo,' is called narcotine, though it has no narcotic effect at all. Will it be proper to perpetuate those errors when conveying a science from a nation who has it, to another who has it not, and when we have the means of correcting them without creating any jar on usage? I certainly think not. I do not deny that there are certain words in English which cannot be rendered with absolute accuracy in any native language, and perhaps the *fi : fa :* and *ca : sa :* of our English courts could not be reproduced in such short handy forms in Bengali. But I, nevertheless, maintain that native terms are preferable to foreign ones. The English terms are not always and absolutely correct, though they will always be unintelligible and unpronounceable. The vernacular terms may sometimes prove to be incorrect, but they will be intelligible and useful, and therefore always preferable. But suppose the case were worse, and that vernacular terms were always to turn out incorrect, still their claims would not be second to those of foreigners, for it would be a great mistake to suppose that what is sometimes correct is necessarily better than what is always wrong. It would be a logical position which DeMorgan has justly stigmatised as a gross fallacy. My watch, Sir, it may be, is always wrong; it goes either a few minutes too fast or too slow; but it is nevertheless infinitely more useful than the watch which does not go at all, but which from that very circumstance is mathematically correct twice in 24 hours. My Indian terms like my watch will always be useful, though they may be at times somewhat inexpressive. The English terms may be exact, but like the watch that does not go, be perfectly useless and a positive encumbrance. I beg of you, therefore, gentlemen, to pause before you adopt the resolution. I feel convinced that it will prove, if it be enforced, a grievous hardship to the people of this country and a serious impediment to the progress of knowledge."

The Secretary read the following letter bearing on the discussion, at the request of the Rev. J. Long.

"I regret that want of time prevented my sending in the paper on technical terms which I promised. It is a subject with which I have had to deal practically during the last twelve years, in connection with schools and translations into the vernacular.

"It is of importance to keep to-night to the point at issue, which I conceive to be—not whether a scientific nomenclature derived from the Sanskrit or Arabic should be constructed for those natives who intend to study *thoroughly* the sciences of Botany, Minerology, Chemistry, Optics, Anatomy?—but whether the mass of the people, who can only gain an elementary knowledge of popular science, should have to study Latin and Greek terminology?

"The upper ten thousand who study English, will of course study science in English, and with it they will adopt the terminology which Englishmen use. But it is a very different question with the masses of India, whose knowledge will and can be gained only through the vernaculars, who have time only to study the elements of popular science.

"With respect to their case, and they comprise 170,000,000 in India, I would make the following remarks:—

"(1) Should we not so then endeavour to *popularise science*, by communicating its truth in as plain language as possible, freeing the approaches to its temple from the thorny jungle of hard words, and not imitating the Schoolmen in making a jungle of terms? Even in England itself, is it not admitted by some of the leading Botanists that their delightful science has been rendered distasteful to many, and particularly to ladies, by the numerous strange terms which they must first study?

"(2) In Bengal, with the exception of medical works, for which there are special reasons, all the popular works in Bengali on Botany, Natural Philosophy, Metaphysics, Astronomy, Zoology and Geometry, Algebra, &c. derive their technical terms from the Sanskrit.

"(3) As nine-tenths of the Bengali language is derived from the Sanskrit, those terms are easily understood and keep a firm hold on the memory. They generally define themselves thus, *peduncle* is rendered by *pushpa danda*, the flower stalk; *petal* by *pushpapatra*, the flower leaf; *petiole* by *patra danda*, the leaf stalk; also by a host of others. I have seen myself in schools under my superintendence peasant boys learn these terms with the greatest ease.

"4. The terms used is Bengali are easily transferrible to the Hindee, Mahratta, and Telugu langnages used by one hundred millions of people, and they are equally applicable to Burmah and other countries where the Pali has been in use.

"5. Throughout India with the exception of a few names, the technical terms used in the Bible and Prayer Book have been derived mainly from Sanskrit or Arabic.

(Sd.) J. Long."

The Rev. K. M. Banerjea said it had been his lot to occupy the *via media* in the discussions which were carried on with such vehemence nearly thirty years ago between the two schools, one of which is certainly represented by the last speaker (Baboo Rajendralal Mittra), and with the other of which the Hon'ble mover of the resolution has been identified, not however, as it would appear, with much correctness. Mr. Banerjea had himself written a good deal in connection with Sir Charles Trevelyan while the controversy was raging in olden days, and like all persons who stand in the middle of a combat, it had been his misfortune to receive shots from both sides. He differed as much from those who despised oriental learning, as from others who would use it as the only or the chief medium of native education. As far as the natives were concerned, the system inaugurated by the victorious party in 1835, under the auspices of Lord William Bentinck, has been fraught with inestimable advantages. "It is to that system," said Mr. Banerjea, "that you owe the large and increasing number of educated natives whose influence is now felt not only throughout the province of Bengal, but is fast spreading to the North West Provinces. It is owing to that system that you have now a native justice in the highest court of the presidency, and that you have a native bar which has been pronounced by competent judges to be scarcely inferior to the bar of Westminster. But for that system, you could not have had such efficient and trustworthy Sudder Ameens and Deputy Magistrates as are now the pride of the public service. And—but for the same system—you could not, this evening, have enjoyed the felicity of seeing the claims of Oriental literature itself enforced by a native gentleman with the eloquence and ability of my learned friend, the last speaker. And here I must remind the Society that the interests of Science and History are quite as much in its keeping as the interests of Oriental lore. The latter

should never be allowed to interfere with the former, nor should the Society encourage any system which would only produce mere pundits, ignorant of the history of the world, ignorant of everything which passed or passes elsewhere than among their own countrymen, whom nobody would trust, and who were once detected in an extensive forgery of whole passages interpolated in manuscript copies of a Sanscrit Law-book, held as authority in the Sudder Court. The real mischief which was done by the Anglicists, as they were called in 1835, was in the discouragement of oriental learning in the civil and military servants of Government. It is owing to the contempt of that learning in high places, that young officers take so little interest in the cultivation of oriental lanaguages, and that you no longer find your Colebrookes and Wilkins raised up in the service by study in India."

Returning to the specific resolution before the meeting, Mr. Banerjea said he would heartily vote for it, if the Hon'ble and learned mover would but add the words "and the classical languages from which they are derived," that is to say, if the resolution ended thus: "Found in the vernaculars and the classical languages from which they are derived." He was opposed to the *minting* of new terms which nobody understood, and which the speculative inventor might himself forget afterwards, unless he daily exercised himself. The Society must not forget the interests of Science in its zeal for Orientalism. Where words are found in the vernaculars or their respective classics, let them not be ignored, let them be preserved by all means. But where the idea is quite novel, and there is no word in the vernaculars or their classics, let the foreign term which introduced the idea be at once adopted, without any murmur about purism. There are practical examples which are replete with instruction in this respect, and from which speculative purists may take a lesson. The records of the lower courts of justice are *by law* required to be kept in the vernacular languages, and yet no one has attempted to translate such words as "appeal," "issue," "decree." In the ordinary business of life, men use terms that are practically useful, without regard to the theories of any school, and no one has ever heard translations of such words as "discount," "exchange," "cheques," and a host of other business terms. The word "map," has been translated by *mán-chitra*, but it exists only on paper: it is never uttered unless by a school-boy under compulsion, and, though it has been on paper for many years

past, if a man went to the China Bazar and asked for a *mán-chitra* of Europe or Asia, no one would understand that he wanted a "map." The word "*naksa*" might be understood, but that is equally foreign to the Bengali with "map." The Society should never encourage a speculative coining of terms when it has not the power of enforcing their use, and it would only throw the Society into ridicule to contend for what may prove an impracticable theory. The last speaker, said Mr. Banerjea, has referred to the Medical College and to its dogged adherence to English terms, unwilling to translate even such words as "hot water." I think the fact speaks volumes. The medical profession has to deal practically with science and human life, and its practice, as my learned friend himself has described it, adds force to the resolution. The experience of such a profession is not to be despised. And there may be many reasons for not translating even the words "hot water." The words are of course translateable, every community has a word for *heat* and one for *water*. But there may be occasions in which a Doctor may do much harm by translating them. And this reminds me of a case in which harm *was* done. Many years ago a person (a native) was taken ill of the cholera, and and there was congestion of the brain. A sub-assistant surgeon ordered the application of *hot water bottles* to the feet: he translated the order to the female who was attending on the patient. How did the lady understand the order and how she executed it? She had water warmed and then *cooled* and putting it in bottles, applied them to the feet. *Cold* water bottles were thus applied instead of *hot*, and the patient died! Speculative purism must not be pushed to the extent of sacrificing everything else before the shrine of oriental lore.

On the other hand, he would not proscribe terms existing in the vernaculars or the classics. He himself translated the elements of Euclid into Bengali twenty years ago, and with a solitary exception or two, he found all the necessary terms in Sanscrit, and freely adopted them. The Hon'ble mover of the resolution, he thought, would not wish the ignoring of such terms, and under this impression and with the slight alteration he had suggested, he would cheerfully give his vote for the resolution.

Bábu Rájendralála Mitra begged permission to say a few words with reference to the amendment suggested by the Rev. Mr. Banerjea. He did not care whether names of foreign things were taken from

foreign languages or coined in the vernaculars. He would in such cases rather borrow than coin. But in regard to compound terms which were not only to denote a thing but also to connote an attribute, he thought the process of borrowing would be highly objectionable. If it be strictly followed, it would put an end to all scientific terminology, and the beauty of classification would be entirely gone. There was in Bengali a word for iron, and also one for the oxide of iron, but none for oxygen or an oxide. Now in treating of the oxide of iron in Bengali, he asked whether it should be called *oxide of iron*, or, oxide of *lohâ*, or *morchyâ?* The first would be perfectly unintelligible, the second an intolerable mongrel, retaining an English preposition and an English affix in connection with a Bengali word, and the third utterly unscientific. In Botany again there was a word for leaf in Bengali, but none for lanceolate, and he left it to the meeting to decide if the words *lanceolate leaf* or *lanceolate pâtâ* would be the most appropriate way of teaching Bengali mallies the peculiarity of a particular kind of leaf. He was no purist, he said, and had some experience in the preparation of vernacular works for his countrymen, and he begged most earnestly to assure the meeting that there could not be greater monstrosities in language, than terms made up partly of European and partly of native words, held together by a random sprinkling of English prepositions and English affixes, and to them the meeting would drive the people of this country if it would insist upon their terminology being transliterated, and not translated and adapted from the English language.

On the motion of Major W. N. Lees, the discussion was then adjourned till Wednesday the 18th Instant.

The Council reported that they had elected Dr. J. Ewart, a member of their body, *vice* Major W. N. Lees who had resigned.

The receipt of the following communications will be announced.

1. From Baboo Goopee Nath Sen, Abstract of the Hourly Meteorological Observations taken in March, 1866.

2. From the Officiating Secretary Government of Bengal, Public Works Department, "Report of the Superintending Engineers of Bengal on particulars of the Earthquake of the 15th December, 1865."

3. From Captain H. H. Godwin Austen, "Notes on the Pangong lake, District of Ladakh."

ADJOURNED MEETING—JULY.

The adjourned Meeting of the Society was held on Wednesday, the 18th July.

A. GROTE, Esq. senior member, in the Chair.

The chairman read the proposed resolution.

The Chairman then called upon Major Lees as the mover of the adjournment, to reopen the discussion.

Major Lees said he regretted that he could not for many reasons support the motion. *First*, Because he felt certain, that if any such resolution as that before the meeting was passed, it would be wholly inoperative; and it did not, he thought, become Societies, founded for the investigation of scientific subjects, to waste their time in discussing a resolution, which, when passed, would be a dead letter. *Secondly*, This Society, composed as it was of a mixed body, some who professed one branch of knowledge, and others who professed another, but the great majority of whom professed none, was not the kind of Society whose opinion on such a subject would carry any weight with the public. An opinion on this subject, to be of any value, should emanate from a literary Society, the majority at least of whose members had some acquaintance with the principles of comparative philolgy and the genius of a variety of languages. The question of terminology was surrounded with difficulties in the West, and when we came to the East, those difficulties were increased fourfold. *Thirdly*, He must oppose the motion, because, if it were passed in its *present* form, it would certainly excite the ridicule of all men of science, and especially of those German philologers, to whom the whole world is so deeply indebted for their able researches into the principles which regulated the philological structure of languages, and for those labours which had laid the foundations of the science of language. In adopting technical terms for employment in translations from English into the vernacular languages of India, to exclude the large body of terms which already exists in the classical languages of India, would be very like excluding terms derived from Latin and Greek from our terminology in Europe.

The whole subject, as it appeared to him, was one of extreme difficulty, and one for which we ought not to lay down any rules; for if we did, no one would be bound by them. It was a subject which must be left to time and experience, and the time past and the experience already gained went some little way to show that, if let alone, the matter would right itself. It was a subject upon which coercion would do harm rather than good. People, if left to themselves, generally adopted that which appeared to them the easiest mode of settling a difficulty; and in this matter experience taught that, though individuals might be so eccentric, where a *nation* had a new science or new sciences to learn, they did not invent or coin new technical terms, when they had old ones *convenient for use* ready at hand. Thus the Arabs, when they translated all the Greek works on science they could obtain, did not invent new terms, though they did not as a rule import the Greek terms. They translated the ideas when possible. The Persians, when they commenced to study those sciences, many of which the Arabs had elaborated from the Greeks, took over bodily the whole terminology of the Arabs. European astronomers again did not reject the whole of the astronomical terms they found in use with the Arabs; they adopted some and translated others. There is no rule. Each nation, no doubt, adopted the course that appeared easiest and most in accordance with the peculiarities of its language; and such will be the case here. There are difficulties in the application of both methods, whichever be approved; and no resolution of ours will remove or simplify them. Thus, if to translate purely technical terms be impossible (as it really is), to introduce words which are not such, and which are easily translatable, is a very great mistake. It only increases the difficulties of acquiring knowledge, which no one can approve. It will be admitted that one of the gravest objections to the *chevaux de frise* of technical terms with which the approaches to all Westerm sciences is guarded, is that they deter many from acquiring them at all. This cannot now be mended; but here foreign words are often introduced quite needlessly, which not only hinders progress, but actually leads to the commission of ludicrous errors. Many of the terms mentioned the other evening as instances of the impropriety of using foreign terms are of this class. They afford no ground for argument, for they are not technical terms at all. Again, the learned Babu

introduced the word *electricity*, derived from ἤλεκτρον, *amber*, as an unhappy instance of indenting on Greek sources; but true technical terms come to be identified with the things or ideas they represent, and in ordinary use, seldom, if ever, retain anything of their derivative meaning. In a treatise on *electricity* published in the *Birgísi Barís*, or *the Paris Jupiter*, an Arabic newspaper published at Paris, chiefly for circulation in *Algiers*, but which is also taken in by some natives in India, the term used, if I recollect rightly, is precisely the same, *viz. kahrubah*, which is the Persian for amber, and which no doubt conveys its meaning equally well. Here the telegraph is the only illustration of the power of the electric fluid generally known, and it is called *tar-i-barqie* by educated Mahomedans, and *bijli ki tar* by the Hindus, both meaning "lightning wire." The one serves the purposes of those who use it quite as well as the other, and as *electric wire*, and both are equally scientific. The uneducated natives or common people generally call it *teeleegaraf*, which in Hindustan can have no scientific value, and to native ears must sound somewhat harsh if not barbarous. As illustrative of the errors likely to follow the abuse of terms not properly technical, he mentioned a curious circumstance. "In reading a native petition to Government last week," he said, "my attention was attracted by the words *Government parmeshwari lote*, for 'Government Promissory note.' Now *Parmeshwari* means relating to *Ishwar*, *i. e.* the Supreme Being, or, as we would probably say 'divine' or 'holy.' I pointed the word out to my native secretary as a curious coincidence. The *Maulavi*, however, informed me that it was no coincidence: that the lower order of natives had an idea that these notes were very solemn things; and that the Governor-General or some great State Officer, in issuing them, was obliged to take a solemn oath, that they would be cashed on presentation." But this, or the very numerous similar instances which could be adduced, are no arguments for or against the introduction of foreign technical terms in translating scientific treatises. Such blunders are made by the common and uneducated people in all countries; and he would be far from wishing to exclude *new* terms taken for a foreign tongue, from scientific works in India, because the *masses* would probably change them into any familiar terms which happened to be similar in sound—what he chiefly contended for was, that we should avoid, as much as possible, raising

up new difficulties, or increasing the difficulties which already [illegible]t the acquirement of almost all sciences. To pass any resolution which would exclude from the Vernaculars the great body of technical terms which already exist in Sanscrit and Arabic, in theology, law, logic, mental and moral philosophy, philology, mathematics, astronomy, &c., would come with a very bad grace from this Society. He had brought with him a weighty tome, which lay on the table before him. It was nearly a foot thick. It was called the *Kashfal-Zonoon*, and was a dictionary of the technical terms used in the sciences of the *Moslims*. This book was published by this Society a few years ago, at a cost of some Rs. 7000 or Rs. 8000, and was edited under the superintendence of Dr. Sprenger and himself, and if this resolution was passed in its present form, it would be tantamount to saying that that sum of the Society's money had been wasted, or, in other words, would be to pass a vote of censure on ourselves. "We have here, it may readily be understood, a great mass of technical terms, and there are very many more in other dictionaries, which have been published elsewhere." To reject *all* these terms; or, as one half of them no doubt are to be found in some translations which have already been made, to take one half and to reject the other half, would doubtless not be a very wise thing to do. Indeed, to reject any terms which, being accurate and, as existing in a cognate language, more easily and more generally understood, can be more readily incorporated with the language into which the translation is made, would, in his opinion, be a very foolish thing. And to this latter point considerable attention must be paid, as the genius of languages differs materially. Of those we have to deal with, in this part of India, there are two great divisions; one which delights in compounds, the other which abhors them. The two cannot be said to be equally well adapted for receiving or absorbing, as a portion of the language, new terms derived from a foreign source. Again in the West, the Roman alphabet is in universal use. Here we have languages with very different alphabets, some having more, and some having fewer letters. Thus the Arabic language has not the letter *p*; and in different countries where that language is spoken, the letter *j* is pronounced as J, G & *h*. Few Asiatics can pronounce foreign words beginning with two consonants, though the sounds may not be un-

known in their own language, and these distinctions and differences of sounds and letters could be multiplied almost *ad infinitum*. It is thus often that those sounds are lost, especially when words are transliterated back into the original language, or any other foreign language. The Arabs, as before mentioned, translated most of the Greek technical terms where they were translatable, but they retained, of course, proper names. Some of these latter might be recognized if rendered into Greek or Roman letters, as *Sokrát* for Socrates, *Fiságaroos*, for Pythagoras, *Aristotilis* for Aristotle; but others, such as *Jalinoos* for Galen, would certainly become *Jolly Nose* in English, and *Bukrát* for Hippocrates, might with equal probability become *Big Rat*. "I trust then that from these hurried and unprepared remarks, I have made it clear that there are difficulties on either side of this proposition, and that this meeting will see that they will best consult the interest of science by letting it alone."

Mr. Dall favoured the passage of the resolution, provided the phrase "*technical* terms" be used in its stricter sense. At least there was a class of terms applied to recent facts and the discoveries of modern science, for which he conceived that no corresponding term could be found, even in the bulky quarto of Arabic and Sanscrit terms now on the table. He doubted if his friend Major Lees would find there any term answering to the chemical elements of bodies as at present recognized. As new facts and combinations occurred, or resolutions of bodies, once held to be simples, into yet simpler substances were accomplished, names were selected for them which partook of the nature of proper names of persons, and were, like our own names, untranslateable. Either an entirely new name must be invented, other than that which had obtained general acceptance among scientific men,—or the term must be transliterated. It could not be translated.

Mr. Blochmann read the following remarks:—

"I agree entirely with the last remark made by Major Lees, that the record of the opinions of the members of this Society regarding the resolution before us, will remain inoperative. The chief argument against a Sanscrit and an Arabic terminology has been already clearly stated by Mr. Justice Norman. I intend mentioning a few other reasons, which may be perhaps of interest, as they are based on facts

"The possibility, or otherwise, of inventing technical terms is by no

means a modern question. We know that among the Romans, Cicero was very often in great distress for the want of Latin equivalents for Greek scientific terms. The terms he required were for the most part metaphysical ones, and the *Disputationes Tusculanae* and *De Officiis* are full of words coined by him. In many cases, however, Cicero retained the Greek terms, evidently despairing of the success of Latin equivalents. How Cicero succeeded in *passing off* his new coinage, is a historical fact. Notwithstanding his great authority as the first of the Latin classics, he could scarcely prevail upon his countrymen to accept a single one of his coinages. Language is the immediate result of thought; you may call it thought itself: and hence no man will suffer his language being dictated to. Plutarch relates another curious example. A freed slave of the name of Carvilius, who was the first writing master in Rome during the first Punic war, wished to make a difference in form between the letters C and G. For up to his time and for several centuries after him, the Romans employed the C alike for C and G. Although a distinction like this would have been of the greatest practical benefit, Carvilius could not prevail upon his countrymen to adopt it. Three hundred years after, he found a votary for his proposed change in the Emperor Caligula, who was an amateur philologist, and it appears that, soon after, the distinction proposed by Carvilius was at last generally adopted. Here we have an example of a practical and necessary change requiring more than three centuries to become generally adopted.

The examples of modern times are also striking. The French Academy, with its magnificent Dictionary, was not able to fix the classical character of many phrases proposed and sanctioned by that learned body. The French language has since progressed independently of that dictionary. In Germany, about twenty years ago, a Society of respectable scholars was founded in Potsdam, whose object was, to substitute for every foreign word in the German language a good German equivalent, and to do away with the apparently useless foreign terminology. The scheme seemed to stand a good chance; for the power of the German language of forming compounds is, as it is the case with the Sanscrit, almost marvellous; although these compounds are by no means so formidable and unutterable, as the Hon'ble Mr. Campbell, and some time ago Mr. Beames in an essay in our Journal, represented. The Potsdam

scheme appeared also the more promising, as being suitable to the German mind, so fond of speculative theories. The Society went to work right earnestly. Even for the names of the Greek and Roman mythologies, German equivalents were substituted. But what was the end? The people of Germany would not accept the proposals of a learned Society; the invented compounds were laughed at, notwithstanding their general excellence. The fact that the language could form the compounds was no proof that they would become naturalized. The whole scheme is now-a-days forgotten, but it ought to be a warning to the whole world, and especially to Englishmen, who justly boast of looking at the practical side of every question.

With such examples before us, I cannot say why the case should be different here in India, as, I speak with all due deference, the pundits here will not be able to form more acceptable compounds than German savants.

I have to mention a few other facts. My learned friend, Babu Rajendralala Mittra, was very enthusiastic in speaking of Sanscrit compounds. But are the Hindus the only class, for which a new terminology is intended?

We have a large proportion of Mahomedans in this country, will they accept Sanscrit compounds? The answer will be, *No;* you must take them from their classical language, Arabic. Now I maintain—and I know that every Arabic scholar will be on my side—that the formation of compounds is altogether against the *genius* of the Arabic language; so much so, that our largest Arabic dictionaries do not contain a single compound, not even a coined compound. It is only in the very modern Arabic, that a few compounds have been attempted, but they are not yet generally received. Thus I may mention the modern Arabic word for rosewater, ماءالورد for الماورد. The position of the article before the word ما shows plainly that الماورد is a compound. Under these circumstances, we would have to take words which are not compounds, *i. e.* we should have either to give new meanings to existing Arabic words, or invent new roots. Both things are impossible, especially the latter, as all languages on earth which are not absolutely savage, have long ago lost the power of creating new roots. This explains the fact that numerous foreign terms have been introduced into every living language. The Arabic is no exception to

this rule. For, rich and immense as the resources of this language are, a very large number of Greek and Persian terms were adopted, even from the time before the Hijra, which in some cases seem altogether useless. Thus we find even in classical works سارستان or بیمارستان P. hospital, for A. لشفا تخمین‌ودارا to cast up an estimate, from the P. گمان for the good تقدیر طسق a tax, tribute, the Greek *τάξις* for the A. خراج and hundreds more. The Arabs have certainly a large number of indigenous scientific terms, as is shewn in the grand dictionary published by Drs. Sprenger and Lees for our Society. But these technical terms are altogether insufficient for modern science. It is a well known fact that the Arabic and Sanscrit possess a large number of metaphysical technical terms; and I think that every modern work on metaphysics could be easily translated into Arabic and Sanscrit, without the use of a single Western technical term. But this is the case with every language. For in metaphysics we have as yet no general terminology, as in Natural Science, nor do even the technical terms of one English philosopher in every case agree with those of another. I mention this, in order that the immense number of Sanscrit metaphysical terms, which are more or less accepted, may not induce some of my learned friends to extend their expectations to the technical terms of other sciences.

Babu Rajendralala Mitra mentioned among others, the fact, that useless words, like 'hot baths' for *garm gosl*, had become accepted by the vulgar. I would not call this a technical term, but view it rather as an adoption necessary to avoid ambiguity, like *posman*, *áfis*, *sléce*, *clák*, *silwaran*, for postpone; office, slice, clock, sale-warrant, &c. Europeans have not recommended their use. The vulgar has got hold of them and refuses to let them go now. But Babu Rajendralala Mitra mentioned also Botany, and said that the Bengali or Sanscrit had beautiful words for petal, stalk, &c. and that the introduction of these English words would be mischievous. But the introduction of such terms even is not intended. We do not care whether the English, French, German, Bengali, &c. have the same or different words for things like petal, stalk, &c.: we could not call such words technical terms. For they existed in the language before the science of Botany was cultivated. But all European savants give to the plants the same scientific name, and in this respect it is desirable, that India

should adopt the same. All European languages have the same word for locomotive, electrophorus, astatic needle, isotherms, &c. These and similar words may be often differently pronounced in different countries. The English pronounce locomótive, the French locomotíve and the Germans lócomotívay. My learned friend fears that the Indians might imitate the word, and perhaps pronounce lakmadip and lokhyodibh. There is no harm in that. Only let them spell it as the Western nations do, that treatises written in future by Bengalis, on improvements on locomotives, may be easier understood in Europe.

The fact that every country speaks a different language, is a formidable obstacle to the rapid interchange of scientific ideas and facts. A radical difference in terminology would only increase the obstacle. Nor are translations of technical terms here of any use. The Potsdam Society recommended for Jupiter the translation, "Tagesvater," *i. e.* Father of Day. It was smiled at. What would a Persian say, if you recommended to him for locomotive موضع خزاك because موضع means loco and خزاك moves? He would laugh. I am told the Punjabees, on seeing the first locomotive in Amritsir, called it "the iron horse," just as the Roman army fighting in Lucania against King Pyrrhus called the elephant *Bos Lucanus*, Lucanian ox. But I have no doubt that the iron horse will soon give way to locomotive or *Railguri*, just as the *Bos Lucanus* has given way to *Elephas Africanus*."

We have then the following additional reasons against a Sanscrit terminology of compounds. First the useless, I might say ludicrous, attempts made in ancient and modern times against the natural development of a language, by dictating to it coined terms. Secondly, a terminology from the Arabic is impossible, as being against the genius of the language. Hence Sanscrit technical terms would suit a *portion* of India only. Thirdly, modern languages have lost the power of forming new *roots*, (I do not mean derivatives) for new things. New things in our times are invariably expressed by foreign terms.

Then, in my opinion, we may retain for the purposes of vernacular education the use of those technical terms which the Indian classical languages already possess, but we might fairly recommend the introduction of our Western terminology for such terms as do not

exist at all in Sanscrit or Arabic. Should the languages of India adopt even in many cases English terms, for which good native terms exist, we ought to remember from the past, that the severity, or authority, of no linguistical purist is powerful enough to arrest such a phenomenon.

"I am under the impression that science has long ago established the correctness of the resolution before us. But I cannot see what benefit would arise, if our Society should record an opinion on a settled matter. For this reason I cannot support the resolution."

Mr. Blanford spoke to the following effect:—

"With many of Mr. Blochmann's remarks I am entirely in accord. As I remarked on the first occasion on which the present matter was discussed, I do not think that any decision that the Society may come to, will in any way affect the ultimate practical result, which will be determined by the convenience the natives may find in adopting the one or the other course now under discussion. All we can do is, to endeavour to ascertain which of the two courses pointed out will probably prove most convenient, and by endeavouring to convince others, save them, perhaps, some misapplied labour. Sir D. Macleod has given his opinion, an opinion which, being at present unopposed, will doubtless carry much weight with those to whom it was addressed; but he has asked us for our opinion also, and I think therefore we are bound to give it.

"The question at issue is, I take it, purely one of convenience, and we may fairly set aside all supposed preference on national grounds for one or the other course. Science is cosmopolitan, and nothing tends more to raise men above small local partialities, than the study of Science in a scientific spirit. I must, however, point out at the outset, that all my remarks are intended to bear on the study of *Science*, which alone deserves the name,—of that body of systematized knowledge, which has methods, as well as a language of its own; and I in no way refer to such scattered fragments of its results as are imbibed as dogmas, and with a view to their practical uses, by those who have little or no conception of scientific method. For the education of the masses, it will probably be found here, as in England, that much useful practical knowledge may be conveyed, with the assistance of a very small amount of technology, and that words in common use

may, with very few additions, suffice to convey as much knowledge as the people generally either require or are capable of acquiring. Scientific technology and nomenclature are chiefly required because Science deals with new and rigorous conceptions, and because she recognises distinctions which are not recognized in popular language; since the masses who use that language, do not find it necessary to draw such distinctions. When these new conceptions and rigorous distinctions are learned and recognised, a scientific language is required to express them with precision; but the acquisition of the ideas and knowledge of things is the essential and really difficult part of the process, and the sounds which denote them are very easily learned, when their meaning has once become familiar. I have found in my own experience at the College, that students learn technical terms much more readily than they acquire the ideas they are intended to convey. The error, which, as I conceive, has pervaded the greater part of my friend Babu Rajendralal Mitra's eloquent address, affords an illustration to the point. He has frequently used a very technical term, 'connotation,' a term certainly not much used in ordinary conversation or writing, but he has used that term—not in its rigorous technical sense,—but as if it were synonymous with 'descriptive etymology.' Indeed his main argument rests upon the assumption, that as a general rule, the root-words of which a technical term is compounded, inform us of the meaning of the term itself, (the 'connotation' or possession of certain distinguishing characters which the term implies.) This, as I shall endeavour to shew, is by no means a common character of the nomenclature of science, of the naming of objects; equally little is it the case with scientific terminology, or the technical terms by which objects and their relations are described; and if this be so, I think the whole argument that has been based on the assumed identity of 'meaning' and 'etymology,' by confounding them under the unfamiliar term 'connotation,' falls to the ground. That so erroneous an idea should ever have been adopted, is, I imagine, in great part due to the method, by which, in a measure perhaps unavoidably, it has been attempted to teach Natural Science in this country. As I have elsewhere observed, this has been mainly a book teaching of names and words, not of things, or of the ideas which the knowledge of *things* suggests; and it is no wonder therefore, if, in the absence of the objects and visible

phenomena, the custom has grown up of endeavouring to collect the meaning of technical terms from that of the elementary sounds composing them.

"Let us see now how far technical terms are really descriptive. In Zoology and Botany, to begin with, a very large number of names are simply the names of places or individuals, with a slight alteration or addition of the terminal syllable. When any fact at all is recalled by the name, it is usually nothing more important than that the animal or plant or fossil so named was first noticed at such a place, or first collected by such a person. Even this last is quite exceptional, and more frequently the name is given as a mere verbal monument of some friend's merits. In the Physical Sciences, in which the mere nomenclature is less copious, and therefore less exhaustive of our resources, terms of similar derivation are also frequent, and thus we have *Magnetism*, *Galvanism*, *Leyden jar*, *Frauenhofer's lines*, *Boyle's law*, *Nicholl's prism*, *Ammonia*, *Magnesia*, *Andalusite*, *Silurian* or *Cambrian systems*, &c., a list that might be extended almost *ad infinitum*. Among these, we frequently find two or more terms of totally different technical signification, derived from the same source, as *e. g. Magnesia* and *Magnetism*, *Ammonia* and *Ammonite*. Another class of technical terms are based on some fanciful analogy or erroneously supposed relation. Such are *anode* and *cathode* in Electric Science, *Hematite*, *Topaz*, *Blende*, and *Crystal* and its derivatives in Mineralogy, *Porphyry* and *Trap* in Geology, and a host of others. And in Zoology or Botany, even when the name used has some descriptive meaning, it would be frequently as applicable to those objects which it counter-indicates, as to those which, by convention, it denotes. Thus such names as *formosa*, *splendens*, *magnus*, *similis*, *lubius*, *problematicus* are of constant occurrence as specific names, when they would greatly mislead, were they supposed to be descriptively distinctive. Lastly, to take those cases in which well known vernacular terms are used in Science, we frequently find them used with a distinct or specially restricted meaning, so that it is a question whether, in such cases, their use is not apt to foster that very vagueness and confusion of thought, which it is the chief condition of Science to avoid. Such are *fault*, *joint*, *rock*, *cleavage* in Geology; *current*, *pole*, *positive*, *negative*, *salt*, *atomic weight*, *acid*, *base*, &c. in Physics and Che-

mistry; and in Zoology we use such terms even as *fish*, *reptile*, and *insect* in a more special sense than in ordinary language. These, however, and a large number of words constantly in use in vernacular languages, are generally translated in European languages, and the same will doubtless be the case to a great extent, when scientific books are written or translated in the Indian vernaculars. But these words are expressly excluded by the terms of the resolution.

Babu Rajendralala Mitra's argument that chemistry, without its systematic nomenclature, would relapse into the confusion and mysticism of Alchemy, affords a salient proof of how much he has misunderstood the real state of the case. In answer to this, it is sufficient to say that the chemical systematic nomenclature only applies to a small part of the science, the inorganic branch; but he will scarcely assert that organic chemistry is not as much a science of law, and weight and quantity, as the inorganic branch. Science, as I have said, is characterized by its precision of idea and rigorous definition, and whether the etymology of the words it employs to denote ideas and things, have a vaguely descriptive etymology or not, is a matter of quite secondary importance, so long as the things are well known and the ideas are clearly conceived and accurately reasoned upon. I think then, that in popular vernacular teaching, where scientific exactness is not aimed at, and cannot be attained, the less technology is employed, the better; and the fewer the Greek, Latin or Sanscrit terms introduced, the better probably for teachers and pupils. When new objects previously known only to science become familiar to the people, experience shews that they have no difficulty in learning the names, however unfamiliar their etymology may be. *Rhinoceros*, *Hippopotamus*, *Astronomy*, *Astrology*, *Geography*, *Aniline*, *Paraffine*, *Iodine*, and a host of other terms originally esoteric, are now familiarly used by thousands who have no idea of their etymology, and by classes to whom they were originally as strange and unfamiliar as they would now be to the mass of the people of India. But, for *science*, technology is indispensible, and as the students of science must have recourse to works in other languages than their own, it is a great advantage to them, (I speak from my own experience) to have to learn the vernacular vocabularies only, and to find in those languages the same terms, (written, if not pronounced the same,) as are already familiar

to the eye. In reply to Major Lees, I would say, that in my opinion the whole question is not one for Literary Philologists to decide, but rather, in so far as any decision is possible, for those who are practically familiar with the demands of their own sciences.

Dr. J. Anderson thought that the *onus* of the debate rests on Sir D. Macleod. He had said in his reply to the address of the native nobility and gentry of Lahore and Umritsur, "I would urge you to adhere to oriental models, whether in the designation of your institutions, the degrees or honors they may confer, or the scientific technology they may adopt, rather than unnecessarily import terms from European lands, which last appear to me to be as unsuitable here as would be the modes of dress of other nations, if substituted for the more graceful garments of your own;" and in his memorandum read at the meeting of the Society in June, he had invited the aid of the Society's advice and encouragement, with reference to the subject of this address. Two matters quite distinct from each other had been discussed by the meeting. One was the mode in which educated natives could best be inducted to a knowledge of European science. The other was that of a dogmatic imposition of a technical language. This last was of course impracticable, but with reference to the former he thought the only way of attaining the object in view would be, to use the language of European *Savans* which had been specially invented to convey their ideas. He thought, however, that the terms of the resolution, as it stood, were too dogmatic, and he would move the following, as an amendment—

"That while the members of this Society regret that they feel themselves precluded from expressing an opinion on the purely educational matters on which Sir D. Macleod has done them the honor to consult them, they would venture to express the opinion that it is not desirable to discourage the general use of scientific terms, for which equivalents are not found in the vernacular languages."

Mr. Ganendro Mohun Tagore said,

"I beg to second Dr. Anderson's amended motion. You will pardon my observing that there is considerable difference between encouraging the use of a foreign technology, and the amended form of the resolution, not to discourage the use of a foreign technology. The former would have been a direct interference, whereas the latter is only the suggestion

of a co-operative measure that may tend towards the enrichment of the Indian vocabulary."

The Rev. K. M. Banerjea said that he understood Mr. Blochmann to concur with most of the other speakers on the *essentials* of the Resolution now before the meeting—only, he was opposed to the carrying of that resolution, because he thought there was no occasion for it. If the Hon'ble and learned mover had asked the Society, uncalled for, to commit itself to the sentiments contained in his resolution, he, Mr. Banerjea, would have joined Mr. Blochmann in deprecating this motion. Mr. Blochmann has shown with great ability and learning that the resolution is correct in its *essentials*, and that the arguments which another learned member had put forward a fortnight ago in opposition to it, were not weighty. But Mr. Blochmann thinks that the Society is not called upon to pass the resolution, though correct in itself. He, as it were, moves the previous question, without directly contradicting the resolution. Mr Banerjea cannot concur with him in this. The society has already committed itself. The Society has expressed a sort of *quasi*-approbation of a scheme calculated to stop the progress of historical studies and scientific researches on the part of the natives of the Punjab. For how could they study, purely by means of the oriental languages, subjects not contained in those languages? The Society is pledged to consult the interests of Science and History no less than those of Oriental lore. Its anxiety for one of its trusts has already led it to overlook the other. An expression of opinion is therefore necessary in the interests of Science, which have inadvertently been compromised by what has passed. Besides, Mr. Macleod has asked for the Society's opinion. If nothing more be said than what has already passed, Mr. Macleod will have no data for concluding that the sentiments of the Society are anything like those which are contained in Mr. Campbell's resolution. The Society being already committed, it is too late now to move the *previous question*, as it were. The previous question might have been originally moved, when Mr. Macleod's scheme was first brought to the notice of the Society. The Society might have abstained *in toto* from an expression of opinion on the Punjab scheme, as it never took any notice of a measure at its own door—viz. the resolution of the Calcutta University, by which the study of Sanscrit or Arabic was made compulsory

on the part of Indian graduates not taking up Greek or Latin. The Society might therefore have refrained altogether from interfering with educational movements—but having already interfered, it is too late at this time of day to say that it has no business with a motion of this kind. It has already entered into the business—it cannot now back out. It must face the resolution. Let it negative the resolution directly if it can—but while approving it in its essentials, let it not throw it overboard by something like a motion of the *previous question.*

Mr. Banerjea then moved an amendment in the wording of the resolution, which he said ought to conclude with the words "for which equivalents are not found in the Indian vernaculars or the classical languages from which they are derived." He thought that while elaborate fabrications of new compounds, quite as unintelligible as any European terms, and much more so than current European terms, were to be deprecated, no terms already existing in the classical languages of the country should be ignored.

Mr. D. Waldie said:—

"I do not intend to object to any modification which the honorable mover of this resolution may make upon it, but I confess that I should have preferred Mr. Campbell's original motion. Sir Donald Macleod's proposal on this subject appears to me very objectionable, for it seems to give encouragement to a spirit of nationality. Now, science knows nothing of nationality: science is cosmopolitan in its spirit, and it is of the greatest importance that its language should be as universally understood as possible. Major Lees has said that the chief advantage and necessity for scientific nomenclature is, that it may be universally understood. This, it is true, is a highly important point, but it is not its primary object: that, as has already been indicated by Mr. Blanford, is precision of definition. Etymology is of subsidiary importance; in giving a name, though it be to his dog or his horse, a man always has some reason, but the name becomes arbitrary, and its origin is often forgotten. For instance in the case of the chemical elements Chlorine, Bromine and Iodine; though these names were derived from Greek words, indicating certain qualities of these bodies, the large majority of people acquainted with these bodies and their properties, will much more readily remember the Greek words from the knowledge they have of these properties, than they

will such properties from the origin of the names. The names in fact become arbitrary terms.

"I do not see the force of the objection raised by Major Lees from the large volume of native scientific terms he has referred to. As regards words which are suitable for their purposes, there is no reason for changing them, and we do not desire to do so; but there must be many also, more particularly those connected with the natural and physical sciences, which can only be of interest or use in the history of antiquated science. We make no objection to preserving them for such purposes, but the question at present is with reference to the introduction of modern science: we are endeavouring to introduce the knowledge of new things, facts and ideas, for which there are no native words in existence; and what we contend for is, that the names given to these things by those who have first described or created them, should be accepted by those to whom they are impartial, and not be superseded by others needlessly invented for the purpose. If the plea of nationality and peculiarity of language is a good one, then in proportion as scientific knowledge is extended to different races, we should have new terms invented not only on the basis of the Sanscrit, but on that of Arabic, Chinese or other leading language, producing difficulty and confusion greatly to be regretted.

"European cultivators of science do not confine themselves to words of Latin and Greek origin: there are many instances of terms derived from other languages; and it appears to me that it would be a course much more redounding to their honour, if the Hindoos, in cultivating the modern sciences, instead of setting about inventing new terms to replace those already accepted and used by scientific men throughout the world, were to apply themselves to the discovery of new facts, and the evolution of new ideas. In giving names to these, should they derive them from the Sanscrit or the Arabic, there can be no doubt but that European men of science would readily adopt them."

Major Lees said that he was very reluctant to prolong a discussion which, he had already stated, he thought profitless; but he must protest against the turn that had been given to the debate, lest it should be inferred that the principle against which the arguments of many of the gentlemen who had spoken this evening were levied, was embodied in the reply of the Lieut.-Governor of the Punjab to the

native nobility and gentry of Lahore and Umritsur. It was sought to be shown that Sir Donald McLeod had said something conceived in a spirit of hostility to the use, under any circumstances, of Western scientific terms in oriental translations; but he had read his reply very carefully, and nowhere could he find any grounds whatever for such an assumption. What the Lieut.-Governor does say is, that he would prefer to see the promoters of the Lahore College adhere to oriental models "in the scientific technology they may adopt, rather than unnecessarily import terms from European lands." And he would draw special attention to the word *unnecessarily*, the force of which seems to have been entirely overlooked, or the sense of the passage misunderstood. But it appeared to him, that if the Lieut.-Governor's impression was to be interpreted in the sense, words in the English language ordinarily bore, what he had said, had very nearly if not quite the same meaning as the last amendment to the Hon'ble mover's motion; and having been in communication with His Honor, since notice of this motion was given, he was not at all prepared to say that, were he here present, he would offer any very strenuous opposition to it. Such being the case then, it seemed strange to him to propose a resolution evidently intended to express dissent from a particular view, which was almost identical in substance, if not in the terms of its expression, with the resolution brought forward to condemn it. It must be borne in mind that Sir D. McLeod was addressing a body of gentlemen whose special object was to found an Oriental College, in which the subjects mainly studied will be the classical languages of India; and though the Lieut-Governor himself is opposed to anything like exclusiveness, and desires "to disseminate as far as possible the knowledge supplied by all lands," yet no doubt the wish and intention of the founders is to revive the knowledge of their own ancient classics, which has almost disappeared. Possibly very little science may be studied in this College at all, which, it may be the intention, should bear the same relation to Government Colleges, as a very few years ago Oxford did to Cambridge, when an Oxford student's knowledge of any branch of science might have been set down as *nil*. It had been said of the students of Oxford, that though ignorant of science, there was an odour of Plato and rose-water about them, and possibly that is the style of thing our friends of Lahore prefer to chemistry, botany, and other studies which bristle with technical terms.

Mr. Campbell, as the mover of the resolution, replied as follows:—"I must remind the meeting that this discussion came about in consequence of the submission to the Society of an address of Sir D. Macleod to the Oriental University, and a memorandum of that gentleman asking our advice on the subjects there mooted. A resolution of thanks to Sir Donald for his address was proposed and voted; but at the same time, to guard against the construction that we shared the more extreme Orientalist views contained in the address, I gave notice of the present motion. It appears to me that Sir D. Macleod, in words as plain as words can be, urged the managers of the new University *not* to adopt European scientific terms, but to take them from Oriental models. Major Lees now seeks to show that Sir Donald meant nothing of the kind. His argument is ingenious, but savours somewhat of special pleading. I can, however, well believe that on re-consideration, Sir Donald would not maintain so extreme a view, and am glad to suppose that both he and Major Lees may now to a great degree concur in my motion. I sought to express dissent from the view contained in the passage of the address, by voting affirmatively, that when we have to express a new thing or a new idea, not known to the vernacular languages, it is better to adopt the cosmopolitan term expressing that idea or thing, rather than coin a new one, or drag into the service from a dead oriental language a term wholly unintelligible to the people. But I am extremely ready to defer to the feeling expressed by several members of the Society, that it is desirable to avoid any appearance of dictation in the matter. I am perfectly content to leave the matter to the free and unbiassed choice of the natives themselves, who, in all their relations with us, show so decided a tendency to the adoption and adaptation of European terms. I have no doubt that whatever we may resolve, they will in the end use those terms. My only object is to express dissent from the strong discouragement of and warning against that course, which the passage in Sir D. Macleod's address to which I allude, seems to convey. Therefore, when I came, to the meeting to-day, I thought that my object would be quite sufficiently served by the negative form of the resolution, which I sought to substitute for that which I had placed before the meeting, and which Dr. Anderson has now been good enough to move. Dr. Anderson's amendment

simply expresses that it is not desirable to discourage the use of European terms. We would leave the natives free to use them if they find them most convenient. We think that from us Europeans, at any rate, there should come no discouragement of such a course, which in fact most of us would, I believe, rather actively encourage, so far as in us lies, though we cannot and would not dictate in the matter. I propose then to withdraw my original motion, and to support that in an amended form, as moved by Dr. Anderson.

"I cannot consent to the amendment of the Reverend gentleman opposite, because I think that it is not desirable to adopt obscure and far-fetched Sanscrit and Arabic words. Sanscrit is not in this country the language of education as Latin is in Europe. Ordinary educated natives know nothing of Sanscrit, and Sanscrit compounds are as bad as German ones. Arabic is a language wholly foreign to this country; all very well when the Mahomedans were masters, but not suited to these days. The first result of this proposition would be, that we must all make a commencement by getting up the whole of the terrible great book which Major Lees has placed on the table, a book which the Society has printed, but which I doubt if any member has read. The speech at our last meeting of the learned Babu Rajendralala was most able and excellent, and my only objection to it is, that it was not to the point. He seemed to represent me as seeking to force down the throats of the natives English words for the commonest terms, for 'hot water' for instance. Such an idea I never entertained for one moment. I have all along said that, wherever a vernacular word exists to express the required meaning, and is used by the people, they must continue to use it. I have been asked what I mean by the vernacular. I mean simply the language used and understood by decently educated natives. Of course I do not suggest that a word is not vernacular, because it is of Sanscrit origin. "*Jal*," water was mentioned, that is an elementary vernacular word. As respects the words "general use" in the proposition before the meeting, it is now only proposed that we should not discourage the use of English words by those who choose to use them. I would say, Let the more learned few use European words which they find convenient, and let the millions also use those European words which *they* find convenient, whether scientific, technical, or any other. I do not object to corruptions: in all

adaptations there must be corruption, but a very little practice enables us to recognise one word a little modified. We hear every moment natives around us using such words as "rail," "map," "receipt," "claim," "court," "decree," "warrant," "mamlet," "boot," and many others. I hope that they will long continue to use them, and increase their stock. At any rate I say do not let us discourage their doing so."

The chairman, in putting the motion to the meeting, observed that he did not understand Major Lees as having qualified and retracted the remarks which he had made in opposition to Mr. Campbell's motion, and in all which remarks he (the chairman) cordially concurred Nor could he read that passage of Sir D. Macleod's reply to which Mr. Campbell had just referred, as asking for the Society's opinion on the question of scientific technology which had been discussed at such length. Sir D. Macleod seemed to wish for advice only on the subject of the relations to be established between the new Oriental College and existing Government institutions, a subject on which the text of Mr. Campbell's resolution very properly declares the Society to be precluded from expressing an opinion.

Major Lees had anticipated the chairman in calling attention to that passage in Sir D. Macleod's reply which had given rise to the resolution before the meeting. The advice therein given was '*not unnecessarily* to import terms from European lands.' Dr. Waldie had pointed out instances, in which it would be absolutely necessary to import terms from some source, and to cases such as these, Sir D. Macleod's warning would not of course apply. If the chairman rightly understood Mr. Campbell's closing remarks, the latter gave his assent to the view of the question expressed by Dr. Waldie, and in that case he thought that his motion in the negative form, which it had assumed as Dr. Anderson's amendment, might well be withdrawn.

Mr. Campbell had at the last meeting referred to Mr. Beames's paper just published in the Journal, but the chairman did not there find any disposition to advocate the object of the resolution. Mr. Beames strongly recommended the indenting on Arabic rather than on Sanscrit roots for supplying deficiencies in official Hindustani; but his objections to Sanscrit compounds would apply to the introduction of terms derived from any of the Indo-Germanic languages.

As the hour was late, the chairman would now put to the vote the several amendments which had been handed to him. Mr. Campbell had, with the permission of the meeting, withdrawn his original motion, and had adopted the amended form of resolution proposed by Dr. Anderson. He would now read the latter to the meeting.

"That while the members of this Society regret that they feel themselves precluded from expressing an opinion on the purely educational matters on which Sir D. Macleod has done them the honor to consult them, they would venture to express the opinion that it is not desirable to discourage the general use of scientific terms, for which equivalents are not found in the vernacular languages."

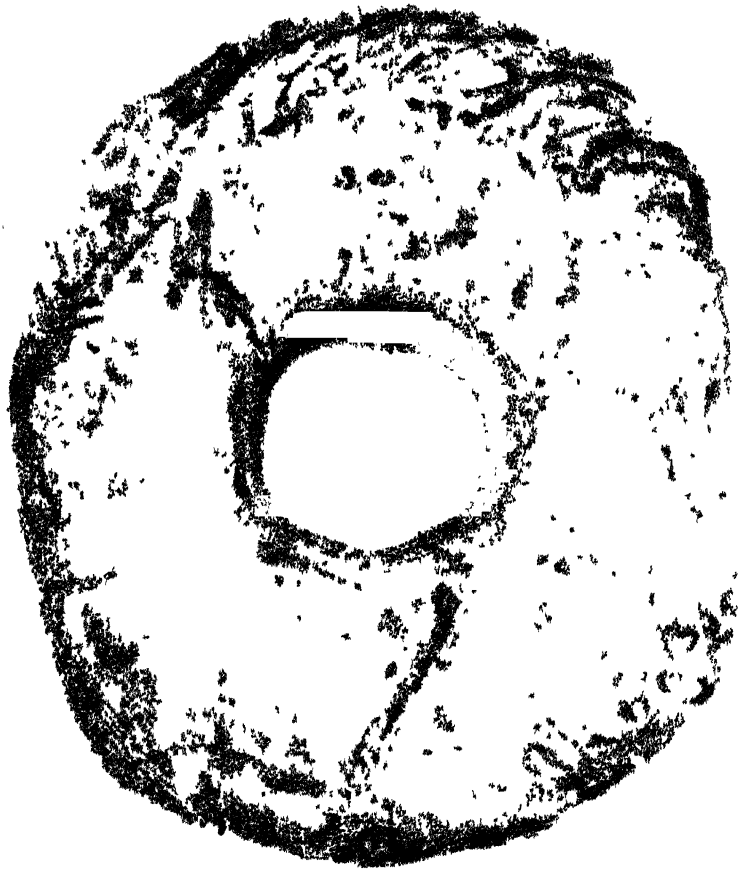
To this the Rev. Mr. Banerjea proposed to add as a rider :—"or the classical languages from which they are derived;" and the following amendment had been handed to him by Babu Rajendra Lala Mitra ;—

"That all terms intended to denote attributes should be invariably translated and adopted; but simple names of things may be taken from the languages of Europe, if their equivalents be not found in those of India."

The amendment and rider having been put to the meeting and negatived by shew of hands, Dr. Anderson's resolution was submitted to vote, when there appeared—

For the resolution :	Against it :
11	6

and the resolution was declared carried.



PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR AUGUST, 1866.

The monthly general meeting of the Asiatic Society of Bengal was held on Wednesday, the 1st instant, at 9 P. M.

The Hon'ble J. B. Phear in the chair.

The proceedings of the last meeting were read and comfirmed.

Presentations were announced—

1. From the Government of Madras, a copy of lithographed sketches of the Shevaroy, Pulni and Anamulley Hills, by Lieut.-Col. D. Hamilton.

2. From Major B. Ford, specimens of *Crustacea*, *Echinodermata*, Centipedes and snakes from the Andaman Islands.

3. From W. T. Blanford, Esq., Specimens of *Gallus Sonneratii*, *Galloperdix lunulosa*, *Fuligula rufina*, *Antilope quadricornis* (two heads), and fore and hind leg of *Bos Gaurus*.

The following gentlemen were proposed for election at the next meeting :—

Lieut.-Col. H. Ballard, C. B. proposed by Mr. Grote, seconded by Mr. H. F. Blanford. Captain F. S. Sherer, Deputy Commissioner, Gowhatty, proposed by Dr. J. Anderson, seconded by Mr. H. F. Blanford.

The Council reported that they have elected the Hon'ble G. Campbell, as Vice-President, *vice* Mr. W. L. Heeley, who has resigned; also that Mr. A. Mackenzie has been added to their body in his place as a member of the Council.

The Council reported that they have appointed two provisional Committees to determine the course of action of the proposed Ethnological Congress, and they have nominated the following gentlemen as members, with power to add to their number.

Physical Committee.

A Grote, Esq.
Dr. S. B. Partridge.
H. F. Blanford, Esq.
T. Oldham, Esq.
Dr. J. Ewart.
Dr. J. Anderson, *Secretary.*

Linguistic.

The Hon'ble G. Campbell.
H. Blochmann, Esq.
Babu Rajendralala Mitra.
Major W. N. Lees.
J. Beames, Esq.
H. Beverley, Esq, *Secretary.*

The following communications received since the last meeting were then announced.

1. From J. Beames, Esq., on the Arabic Elements in official Hindustani, No. 2.

2. From the Secretary to the Government of Bengal: some Reports on the earthquakes felt at different parts of India.

3. From W. H. Johnson, Esq., through Col. J. T. Walker: Report of the Survey operations of the Cashmere series beyond and to the north of the Chángchénmo valley.

4. From Col. E. T. Dalton: The Kols of Chota-Nagpore, with Notes on the Oraon language by Rev. F. Batsch.

5. From the Punjab Auxiliary Branch of the Asiatic Society of Bengal: two Notes on visits to Cashmere, by Major D. F. Newall, R. A.

6. From F. S. Growse, Esq., C. S.: some objections to the modern style of official Hindustani.

The Secretary read some extracts from Mr. Johnson's report on the Survey Operations of the Cashmere series, giving an account of the writer's visit to Ilchí in Khotan. The following is a brief abstract of some portions of the paper:—

The author's route to Ilchí in Khotan was from Leh by the end of the Pangong lake and over the Másimik Pass to the Chángchénmo valley. Thence crossing the Lúmkáng Pass, he proceeded in a northerly direction on high extensive table lands, "which might be called

plains in comparison with the rugged ranges of the Himálayas, for they have a greater extent of level than of hilly ground, and the hills are low, and have such easy slopes that a horse may be galloped over them everywhere." These plains are at an elevation of from 15,300 to 17,300 ft. and extend up to the foot of the Kíun Lun. To the east and south-east, the author noticed other plains of considerable extent, which are believed to merge into the Chángtháng plains of Rudok. To the west there were no plains, but a series of deep valleys, in which are the sources of one of the principal affluents of the Kárákásh river. Proceeding northwards from the plains abovementioned, the author struck the Kárákásh river at a point six miles west of the G. T. station on the Kíun Lun, E. 57, (lat. 35° 53′ 36″; long. 79° 28′ 32″, height 21,767 ft.) and 25 miles to the N. W. of its source; which is in a spur of the Kíun Lun, separating the valley of the Karákásh from the plains crossed by the travellers. The author learnt from native information, that the Kíun Lun stretches in an easterly direction for about 100 miles from the source of the Kárákásh, and then terminates in an extensive plain, which communicates with the Chóng-tháng plain: further, that by skirting the Kíun Lun range, wheeled conveyances might be taken easily from Ilchí to the Chángchénmo valley near Leh.

After a stay of some days on the Kárákásh, which the author employed in visiting several peaks and fixing points for the continuation of his survey across the Kíun Lun, he proceeded, on the invitation of the Khán of Khotan, to Ilchí, a journey of 16 days due north, and by very difficult roads. The whole country of Khotan north of the Kíun Lun range, including seven pergunnahs of Yárkand, which had submitted to the Khán of Khotan during the author's stay in Ilchí, is an immense plain, sloping gently downwards to Aksú, fifteen long marches north of Ilchí. The entire plain is watered by numerous streams and some large rivers, which are the principal affluents of the Tárim or Argol river, which in its turn disembogues irrto the great Lake of Lob Núr. The whole country is irrigated by canals from these rivers. Six miles north of Ilchí is the great desert of Taklá Makán (Gobi), the shifting sands of which are said to have buried 360 cities in the space of 24 hours. Brick tea is dug out of one of these cities in large quantities, and finds a ready sale in Khotan, now that all trade with China is stopped.

Khotan, which was formerly a province of China, is now independent, the Mahomedan population of Yárkand, Khotan, Káshgár, and other provinces of Central Asia having, in 1863, massacred all the Chinese in those provinces, except a few who adopted the Mahomedan religion. The population of Ilchí is about 40,000, and that of the whole country of Khotan about 250,000, the females preponderating over the males to the extent of 20 per cent. They have a slight Tartar cast of features, and speak the Turki language; they appear to be very strict religionists.

The chief grains of the country are Indian corn, wheat, barley, bajra, jowar, buckwheat and rice, all of which are superior to the Indian grains, and of fine quality, the climate being mild and equable in temperature, with moderate rain in slight showers occasionally. The country is described as being superior to India, and equal to Káshmir, over which it has the advantage of being less humid. Cotton of good quality, and raw silk are produced in large quantities. The principal forest trees are the poplar, willow and tamarisk, and between Khotan and Aksú, for a distance of twelve marches, there is such a dense forest of them, that travellers are said to have lost themselves in it. The whole country is very rich in soil, and produces splendid grass, but the greater portion is waste, for want of inhabitants, and the present produce is more than sufficient for the wants of the population.

The Khán of Khotan has an army of 6,000 infantry and 5,000 cavalry; and a large artillery force, commanded by the Khán's sons and a Pathan from India.

From Ilchí the author visited Kíriá, about 40 miles east of Ilchí, and the site of an old city near Urangkásh, from which the brick tea is exhumed. He met with great difficulty in taking observations for fixing the latitude, as the Khán, although he offered no objection to the use of the plane-table, was decidedly opposed to astronomical observations, saying that his courtiers considered it might be preliminary to the country being taken possession of by the British Government. The author was, however, invited to visit Yárkand and take possession of it in the name of the British Government, and was informed that the inhabitants had clubbed together and collected three lakhs of rupees and *khilats* as a present, if he would take up the

governorship of Yárkand, as they were tired of anarchy, confusion, and constant warfare with one another, and oppression at the hands of the Khokánees.

After a stay of sixteen days, the author was allowed to take his departure, and after a rapid march to Luk in the Yárkand territory, and about 36 miles east of the city of that name, he returned to Zilgiá, and thence proceeded viâ Sanjú to Shádulá, the guard house on the frontier of the Maharajah of Kashmír, and so southwards to Leh.

The paper was illustrated by a sketch map, shewing the author's route, and was accompanied by several Itineraries, partly derived from native information.

Extracts from a note by Colonel Walker on the subject of the above paper were read, as follows —

"The position of Yárkand as assigned by Montgomerie differs by about 200 miles in longitude from that assigned by the Schlagintweits. I think Montgomerie's value is a full degree in longitude too much to the east. We know the distance between Yárkand and Káshgár pretty fairly, and we know the position assigned to Káshgár by Russian officers. If Montgomerie is correct, the position of Káshgár must be considerably altered." With reference to Mr. Johnson's paper he remarks, "It is the most valuable contribution to the geography of Central Asia, that has been made, for several years, by anybody in India."

The Chairman, in proposing that the thanks of the meeting be voted to Mr. Johnson, observed as follows :—

"The paper which has just been read by our Secretary, Mr. Blanford, seems to possess very considerable merits. The country which Mr. Johnson describes certainly exhibits many remarkable features. Whether we consider it in reference to its contiguity to three distinct kinds of civilization, that of China on the one side, of the Russian Empire on another, and of England or rather British India on the third, that is to the south and south-west : or whether we look at its somewhat isolated position on the high plateau of Central Asia : or, again, if we turn to the character for good looks and personal beauty which the author gives to the inhabitants, so little to have been anticipated *á priori* in a people said to have a close connection with the

Chinese and the Turanian races; or to the singular fertility (unequalled in this part of the world, unless perhaps by that of the valley of Cashmere,) which is displayed on one side of Khotan, contrasted on the other by that phenomenon, which is, I believe, in some respects still a puzzle to geologists, namely, the growing desert; or lastly, to the important political questions which are proposed by the author:— in whichever of these aspects we regard the subject of Mr. Johnson's paper, it appears to me to afford us many topics of unusual interest, and I have great pleasure in now inviting discussion upon them."

Mr. G. Campbell and Mr. W. T. Blanford offered a few remarks on the paper, and the thanks of the meeting were unanimously voted to the author.

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR SEPTEMBER, 1866.

The meeting of the Asiatic Society of Bengal was held on Wednesday the 5th September.

The Hon'ble G. Campbell in the chair.

The proceedings of the last meeting were read and confirmed.

Presentations were announced—

1. From A. Grote, Esq., two specimens of *Euhydrina Bengalensis*: one specimen of *Lepus Ruficaudatus*: one newborn foal of *Equus Caballus*: three eggs of *Colotes versicolor*: four specimens of live Geckos: and one of a Python.

2. From Mrs. H. Mackenzie of Bangalore, through Mr. Grote; an abnormal skull of a dog from North China.

3. From Lieut.-Col. J. E. Gastrell, a map of Central Asia, compiled in 1866.

4. From A. M Fergusson, Esq., a chart shewing a summary of information regarding Ceylon.

Skins of the *Bos Gaurus* and the four-horned antelope were exhibited by Mr. W. T. Blanford, who offered some remarks on these specimens and on the distribution of the animals frequenting the Sal Forests.

The following gentlemen proposed at the last meeting were ballotted for and elected as ordinary members:—

Capt. F. S. Sherer.

Lieut.-Col. H. Ballard, C. B.

A letter from Rajah Apurva Krishna, intimating his desire to withdraw from the Society, was recorded.

The Chairman read a communication from Mr. Temple, with an enclosure from Col. T. Spence, regarding the collection of aboriginal specimens of the human race, at the approaching Jubbulpore Exhibition. He said,—

"I am glad to be able to inform the Society that our efforts for the establishment of a system of Ethnological exhibitions are likely soon to bear practical fruit. In these things, the first step is the most difficult; and if we once make a commencement, the rest will follow. Knowing that Mr. Temple, Chief Commissioner of the Central Provinces, proposes to hold an Exhibition at Jubbulpore next Christmas week, and believing Jubbulpore to be the centre of a country abounding in the most interesting aboriginal races, I suggested to him the advantage of adding a human department to his exhibition. Mr. Temple is a man always ready to take the lead in any movement in advance: he acts, while others only think. The letters which I will now read will show that he has accepted our suggestion.

"They run as follows:—

"*The Residency, Nagpore,*
5th July, 1866.

"MY DEAR CAMPBELL,—In reference to your Ethnological suggestion: I enclose an extract copy of a note from Spence.

"I have told him to get the Exhibition Committee to see whether a little lucre may not tempt these wild creatures to come into the station and be clothed, and shewn off for the edification of their more civilized fellow-humans.

(Extract from Col. Spence's letter.)

"'With reference to the proposal for getting up an Ethnological Exhibition as an addendum to the Exhibition at Jubbulpore, which forms the subject of your letter of the 20th instant, there is no doubt that there are many interesting races in various parts of this division: but I fear it would be very difficult, if not impossible, to get specimens of these races collected at Jubbulpore, for they are as wild as the jungles and hills which they inhabit; and are so suspicious, that they would be sure to think we must have some mysterious object in view. If we could manage to bring some of them in, we should be obliged to provide clothing for most of them: at least I can say that when I was in the Mundlah District in January and February

last, one of the most characteristic specimens of the Bygah race I saw there, boasted of nothing more in the way of clothing, than a green tassel, and a powder-horn, which, however cool and airy, was scarcely sufficient for decency! I shall do what I can, to have men belonging to as many different races as possible collected at the Exhibition; and should any scientific men desire to make an examination of the heads and general conformation of any of these specimens of the human family, our Committee will give all the assistance that can be rendered without risk of causing annoyance or apprehension, which we must, of course, be careful to guard against.'

'A. BLOOMFIELD.'

True copy,

"You will see that Col. Spence, notwithstanding the difficulties suggested, hopes to get some very interesting specimens; and Mr Temple proposes to get over Col. Spence's difficulties by a little judicious bribery. Of the existence of races of the wildest and most curious types, there can be no doubt. The Bygahs mentioned by Col. Spence are new to me. In those parts, the Gonds are a sort of superior and dominant aborigines, perhaps conquerors; and the Bygahs and other extreme savages are no doubt the vestiges of more primeval races, and must be of the very greatest interest.

"With respect to the clothing, I would only suggest that I think we should prefer to have them in their native and characteristic shape without it. As cleanliness comes after godliness, so I think that decency must come after science; at any rate I would only satisfy the most inevitable demands of decency.

"I would then strongly recommend all those members of the Society who take an interest in the subject and have the leisure, to arrange to be at Jubbulpore at Christmas, and to be prepared to make the most of the aboriginal gentlemen whose acquaintance they will have an opportunity of making. I propose that the Society communicate to Mr. Temple and Col. Spence their warm thanks for the way in which they have taken up this matter.*"

This proposition being put to the vote was carried unanimously.

* The morning after the Society's meeting, Mr. Campbell received a communication on this same subject from the Secretary of the Jubbulpore Exhibition, and the opportunity is taken of publishing it with these Proceedings, to show that the matter is actively going forward. The aboriginal classes mentioned by the Jubbulpore Committee include all the most important

The chairman then read a letter from the Rev. Mr. Jaeschke communicated by Mr. F. Cooper, C. B., regarding the languages of the North Himalayan Frontier, which he introduced with the following remarks:—

aboriginal families of Central India. Mr. Campbell has only been able to suggest the addition of some 'Bhooyas' and some of the wildest Kol tribes from Sumbulpore. The Gonds from beyond Belaspore and Chuttoesgurh are much more savage and primeval than those of Jubbulpore. Mr. Campbell has also asked whether search could be made in a westerly direction for the 'Sherrias' of the sources of the Chambul, mentioned in a paper read to the Society last year, and also whether some of the purer specimens of Bombay Kolees could not be brought up for comparison with the others.

Mr. Campbell has farther suggested that, situated as Jubbulpore is in the very centre of India, it would be very interesting to place in a conspicuous position characteristic specimens of the different civilised and semi-civilised races found in the Central Provinces. Jubbulpore and the country to the north would supply the Hindustanee tribes and castes. In Nagpore proper and the country to the west and south are the Mahratta races—and in the extreme south-east districts, down the Nerbudda, is a Telinga population.

Nagpore, 1st September, 1866.

MY DEAR MR. CAMPBELL,—I think it was at your suggestion that the Jubbulpore Exhibition Committee first decided to collect ethnological specimens at Jubbulpore this Christmas. You may therefore like to see what they propose to do.

If you could offer any suggestions for improving the human show, they would be gratefully received.

I hope you are to be there yourself to see.

Your's sincerely,
C. BERNARD.

HON. GEO. CAMPBELL.

Extract from Exhibition Committee's letter.

"Our ethnological arrangements may at present be told in a sentence. District Officers were addressed in a circular, a copy of which was furnished you The only replies received are from Dennys, Deputy Commissioner of Seonee, and Troyford, Deputy Commissioner of Baitool. Dennys can bring some wild specimens perhaps, but asks us to pay Rs. 5 each for them, a question we put on one side, till we see what other Deputy Commissioners will do. I have been talking over the matter with Pearson. He thinks we might get specimens of the following wild tribes without much difficulty.

Gonds.
Koorkoos.
Bygahs.
Bheels.
Kols.

"Are there any other wild tribes we can lay hands on?

"The value of single specimens would, I presume, be small. We will try and get a family of each.

"The Gonds could be got near at hand. But it may perhaps be worth while fetching a family of them from Belaspore, and another from the upper Godavery, in order to mark diversities, (supposing they exist). Koorkoos from Hoshungabad, Bygahs from Mundla and Belaspore, Bheels from Nimar, and Kols from Bigerajoogurh.

"I will ask the Deputy Commissioner of these Districts, if they can get us a family of each. We shall have to feed our biped specimens, no doubt. And when they are here, we will photograph them. The scientific observation part must be done by visitors. Cumberledge will be asked to send some specimens from Sumbulpore."

"I have received from Mr. F. Cooper, C. B., resident in Kashmere, a communication from the Rev. Mr. Jaeschke, Missionary in Lahoul. He does not seem to have any personal acquaintance with the Kashmere countries, and his criticisms on our Proceedings are principally derived from books. He advocates the claims of the snowy peaks North of Almorah and north-east of Lahoul to be the great and small *Kailas* of the Hindoos, but eventually he comes to a conclusion in which I am much disposed to agree, viz., that the word was applied vaguely and generally to "unknown heights." If so, the snows of 'Nanga Parbat' and the surrounding country west of Kashmere may properly, claim the name without interfering with rival claimants. Mr. Jaeschke is, however, certainly wrong in assuming that there is no modern country of 'Chilas,' because he says he finds from the map that 'Chilas' is only a single village. He admits that his great authority, Cunningham, applies the name Kailas to the whole range covering this part of the country, but he adds 'only as a scientific proposal, from want of another name.' This is quite a mistake, General Cunningham rightly applied the name, only correcting Chilas to Kailas. I can testify from personal observation that the country up there is just as well-known as 'Chilas' as 'Bengal' is known down here.

"Mr. Jaeschke advocates the claim of the ancient name 'Dardee' to be applied to the languages of those parts. If it is preferred, I have not the slightest objection. I only wish to get the language, by whatever name we call it.

"More important are Mr. Jaeschke's remarks regarding the country which he himself knows. He says—

'All this does not affect the usefulness of the proposal of Mr. Campbell for the sake of philological science in general, and it would undoubtedly be a great gain to it, if all these dialects and languages were thoroughly explored by competent scholars, and more especially those which may be supposed to be of unmixed Aryan descent. As for myself, I am greatly obliged to you for the sending of the papers concerning this project, but my aid to the object in view will necessarily be very scanty, or nothing at all, as my principal study is confined to Tibetan; and the two or three hill dialects of this neighbourhood, which have little or no affinity with Tibetan, have,

as far as I know, not any more with Kashmere, or the Dardee dialects. I intend to make some more accurate enquiries into the Balte dialect, which seems to be Tibetan mixed up with a great deal of Persian and other foreign words, as well as into the above *non-Tibetan languages* of this valley, as far as my other duties leave me time for it; but I don't think this to be in any connection with the desires of the Asiatic Society, as defined in the papers before me. Proceedings, &c., p. 48."

"Now Mr. Jaeschke is quite mistaken in supposing that the non-Thibetan languages of his neighbourhood do not come within the scope of our inquiries. We did not specify them, because we did not know of their existence. But nothing can be more important than the existence in these most remote valleys, secluded among the eternal snows, of non-Thibetan languages. These must be among the most ancient traces of the world's history, and whether they prove to be Arian in their character, or whether they are allied to any aboriginal tongues of India, they will mark one of the earliest forms of human speech. Sir Donald Macleod expressed to me in conversation a suspicion that the name of Kooloo (the valley south of Lahoul) came from the old aboriginal word 'Kol,' 'Kolee' or 'Coolee,' but I do not know if this has been confirmed. At any rate the exhumation of those fossil languages of the valleys, separated for thousands of years by snow and enormous mountains from all the rest of the world, would be the very greatest service to science. I propose that we thank Mr. Jaeschke through Mr. Cooper for his communication, and express to him our earnest hope that he will communicate to us information regarding the non-Thibetan languages alluded to by him."

The receipt of the following notes by Mr. J. Beames, on the Sanscrit "*Om*" and Hebrew "*Amen*," and Prof. Blochmann's reply to the above was announced and ordered to be printed in the Proceedings.

Mr. Beames writes as follows:—

"I do not think there is any connection between the Sanskrit *om* and the Hebrew *amen*, for:—

1st. The word *amen*, which is found in all Semitic languages, is a verbal participle of the verb *áman* (Arab. Syr. Eth. the same),

meaning originally "to support or prop;" then, "to carry a child in the arms," in which sense it occurs in Numbers xi. 12, where the words are "*caasher yissá há-omén eth há-yonek*," i. e. "as a foster-father carries a child." Our authorized version renders the word *omén* (the present participle) by "nursing-father," and Gesenius aptly compares the use of the Greek word παιδαγωγός.

The cognate word in Arabic is أمن to nourish, and we are thus led to seek the original biliteral Semitic root in the syllable *man*, and to regard the *a* initial as a later addition.

Although, as Mr. Blochmann says, an accessary *n* may be traced in some biliteral roots, yet a prosthetic *aleph* is far more common; and in treating of a point so far removed beyond the historic period of language, we must not confound grammatical with radical processes. Mr. Blochmann seems to be doing this; he seems to be thinking of verbal derivatives in *on* or something of that sort.

The Arabic root *mána* leads us to *bánah* 'to build,' whence *ben* 'a son,' and the original signification is thus closely connected on all sides with the ideas of erecting, supporting and confirming.

Thus although the Sanskrit compound *oman* and the Hebrew uncompounded word *amen*, have at first sight some surface similarity, yet it is evident on a little enquiry that in the Sanskrit word the idea of *confirming* lies in the syllable *ao* or *o* the syllable *man* being merely a grammatical addition;—while in the Hebrew word the idea of *confirming* lies in the syllable *man* or *men*, the syllable *a* being merely prosthetic. To connect the two words then philologically, we should have to establish a community of origin between *ao* and *man*, which is a difficult, if not an impossible task.

2nd. The word *amen* is found in its sense of "so must it be," as early as Numbers v. 22, in the description of the ordeal by holy water as applied to women suspected of infidelity.

The priest repeated the curse, and the woman answered "amen, amen;" meaning, "If I be guilty, may the curse take effect on me."

Again in Deuteronomy xxvii. 15, where, in the hearing of the whole nation, curses were pronounced on those who should break the law, at the end of each curse, "the people answered and said, 'amen,' *i. e.*, "so mote it be."

Now whatever antiquity we ascribe to the Pentateuch, we cannot

well put it later than 1200 B. C., and I suppose Sanskrit scholars claim a still higher antiquity for the Vedas; but the word *om* being a corruption of *oman*, the origin of this latter word must be put further back still, just as the use of the Hebrew *amen* in a work dated 1200 B. C., points to its existence at a much earlier age. If then we have succeeded in shewing the improbability of the two words having a common philological origin, we must next have recourse to the supposition that one nation borrowed the word from the other, and the idea of the Beni Israel at, say, B. C. 2000, having any means of communication with the authors of the Veda is out of the question.

That at an extremely remote pre-historical period, the ancestors of the Semitic race were identical with those of our own Aryan family is possible, nay, probable; but the acutest modern scholars, Gesenius, and Renan for instance, fail to find in Hebrew, more than the very faintest traces of a common origin. When the scholars quoted in Babu Rajendra Lal's note render *om* by *amen* they do so evidently merely as to sense, and do not imply that there is any radical affinity between the two words.

3rd. There is no authority for Mr. Blochmann's assertion that the initial *a* in *amen* is a softening, through an intermediate *'ain*, of a *k* initial. The whole process of derivation given by Mr. Blochmann appears to me to be fanciful and unsupported.

The word *ámar*, 'to speak,' is by Gesenius, who is followed by most scholars, held to be another instance of an *aleph* prosthetic; so that the root is *mar*, which is a softening of *bar* 'to bear;' *mar* therefore means 'to bear,' 'to bring forth,' 'to bring out words from the mouth,' 'to speak;' hence in Arabic we get the sense 'to command,' which is derived from the earlier Hebrew sense, and is not, as Mr. Blochmann suggests, the original meaning: for, not to lay much stress on the improbability of the process by which the idea of 'establishing, commanding' is made to change to the idea of simple speaking, it may be noted that, in Hebrew, the idea of words as something carried or brought out of the mouth, is very common. Instances are the expressions *nasá kol*, "he lifted up his voice" applied to weeping or singing, (Num. xiv. 1 and *passim*); also shouting; and lest it should be urged, that these expressions refer to raising the voice to a loud

pitch, I would refer to Exodus xxiii. 1; "*lo tissá shémá shávé*" thou shalt not utter a false report," where no idea of raising the voice can be entertained.

4th. The reference to the misty idea of the Rabbis proves nothing. The jugglery of those quasi-learned persons has long been looked upon by scholars as unworthy of attention. If the word *amen* were really a compound of "*Elohim melek nëemán*," which is, I suppose, what the Babu (or his authority rather) means, then any philological connection between the syllable *am* looked on as a radical Semitic syllable and *om*, falls to the ground at once.

"I think, therefore, that from a Semitic point of view, any connection between the two words is impossible, and the Babu's idea, that some mysterious importance was attached to *amen*, is a mistake. Amen is the Hebrew for "yes" and nothing more. The Evangelists often leave a word or two of our Saviour's native Syriac, when translating his sayings into Greek, and this is one; and from its being retained in the Gospels, it has come to form part of modern Christian ecclesiastical phraseology, but never had, or has, and probably never will have any mystic meaning.

JOHN BEAMES.

Mr. Bloehmann's note in reply is as follows:

"Mr. Beames in his paper endeavours to correct a remark made by me some time ago on the word "*amen*," which Babu Rajendra Lal Mitra had compared with the Sanscrit *om*.

"Mr. Beames and I agree in three points:—

1. That there is no connection between *amen* and *om*, as proposed by the learned Babu.

2. That the original meaning of the biliteral root in *aman* is *supporting*.

3. That the ultimate roots of the Shemitic languages are *biliteral*.

"The point of difference between us is that Mr. Beames says, that of the triliteral *aman* the original biliteral root is *man*, the Aleph being accessory, whilst I still maintain, that the biliteral *am* is the ultimate root, the final *n* being the accessory.

"Mr. Beames does not appear to have seen this, because he misunderstood altogether the term "accessory." He advises me not to confound grammatical processes with radical ones, evidently under the

erroneous idea, that I considered the final *n* in aman as related *f. e.* to the *n* in سليمان, Gib'on (root gaba'), حيران from the root حار, or in ruhónó from rúh. But to mix up the etymological *n* in *derivatives* with the 3rd radical *n* in triliteral roots is a monstrosity, of which I certainly never thought. By an accessory, I mean that 3rd letter, which Mr. Beames and I do not consider as belonging to an ultimate biliteral root. I might have called it the modifyer of the idea of the root. Thus the ultimate root قط, which people quote so often, has yielded many triliteral roots as قطم, قطل, قطر, قطع. In calling the م, ل, ر, ع accessories, I do not consider قطع as a compound or grammatical process (?) of the biliteral قط, but I maintain, that the syllable قط contains the general idea of cutting and that the accessories reduce the general idea of cutting to a particular kind of cutting. Thus the letter م, which we pronounce by *closing* our lips, superadds to every Shemitic verb ending in م, the idea of *closing*. The syllable قط means cutting generally, and قطم must combine the meanings of cutting and closing. On referring to the Dictionary we find that قطم is applied to cattle tearing off grass with their lips. *(Freytag: extremis dentibus prehendit et gustavit).*

"I trust Mr. Beames will now understand the term accessory or modifyer. I need not here explain the modification produced by the accessory *n* in 'aman,' as Mr. Beames holds a different view. But I must ask Mr. Beames, to let me know the meaning of his prosthetic Aleph. For if it be a true axiom that language forms nothing *uselessly*, and if the syllable *man be* the ultimate biliteral root of aman, the first Aleph must exercise some influence on the general meaning of the biliteral *man*, which Mr. Beames will now have to explain. To call it a prosthetic Aleph merely, implies nothing, and is besides, to say the least of it, a misnomer. For the term prosthetic is given to the Aleph in افلاطون for Plato, *eshkól* a grape for *shkól*, &c., and is purely euphonic. But the syllable *man* is so easily pronounced, that no language on earth would put a prosthetic Aleph before it.

"Mr. Beames calls my proposed etymology, "fanciful" and "unsupported." I pass in silence over the former epithet, but I shall prove that the latter was applied too hastily. If Mr. Beames will kindly refer to the root כָּשֵׁר كشر in Gesenius' Lexicon, he will find it compared with, and of similar meanings as, עָשַׁר, יָשַׁר, and אָשַׁר,

i. e. the syllable *kash* with the accessory *r* traced by Gesenius himself over an 'ain and a yód to an aleph, the same as I did with אָמַר He may also compare אָזַר, עָמַר, בָּתַר and in general the remarks made by Gesenius under the letters כ, ע, ח &c. Mr. Beames' knowledge of Shemitic languages will also suggest to him examples like אַרְשׁ and عرس and عرش, אָצַר, חָצַר, حصر, عصر, غصر, قصر, קָצַר and even, dialectically, كصر. Hence my views are not only not unsupported, but even supported by Gesenius himself.

"Mr Beames will now fall back on another remark made by him, viz. that the prosthetic Aleph is "far more common," than a final modifying *n*. In this case I would invite Mr. Beames to look into an Arabic Dictionary like the صحاح or the صراح or the Police "Dictionaire Arabe" by Farhat, where the roots are arranged according to the *last* of the three radicals. He will be able to judge with his own eyes, that the number of roots ending in *n* is at *least* sixty times as great, as the number of the roots commencing with an Alif as given in Freytag.

"The question whether the ultimate biliteral root of aman be *am* or *man* involves the more important question of the value of the consonants in Shemitic roots, and the reduction of the latter to simple ideas arising from perception, or to onomatopœias. There is a probability even, that the root *aman* in its meaning "*nursing*" ought to be traced to אֵם mother, so that we would have an onomatopœia with an accessory *n*, whilst the other meanings might belong to the biliteral *am*.

"I pass over Mr. Beames' peculiar views regarding the age of the Pentateuch as a *whole*, which he places as far back as 1200 B. C., from which idea however modern critics have good reason to differ."

H. Blochmann.

29*th July*, 1866.

The receipt of the following communications was announced.

From C. Campbell, Esq. Notes on the History and Topography of the Ancient Cities of Delhi.

2. From P. Carnegy, Esq, through the Honorable G. Campbell; Notes and Queries on the past history of different clans and races of "Oude."

3. From Lieut.-Col. J. E. T. Nicholls, Officiating Secretary to the Government of India, Public Works Department. Further communications on the Earthquakes of the 23rd May last.

4. From Baboo Gopinath Sen "Abstract of the Hourly Meteorological Observations for April and May, 1866."

5. From D. Waldie, Esq., experimental investigations connected with the water supply to Calcutta.

6. Contributions to Indian Malacology; No. VII. A list of species of Unio and Anadonta described as occurring in India, Ceylon and Burma. By William T. Blanford, Esq. A. R. S. M.

Mr. Waldie read some extracts from his paper on experimental investigations connected with the water supply of Calcutta, of which the following is an abstract.

Mr. Waldie commenced with some introductory remarks on the attention given of late years by civilized communities to subjects bearing on the preservation of health, and among these to the wholesomeness and purity of the water required for domestic use; also of the special interest taken in this subject at the present time by the inhabitants of Calcutta, in connection with the supply of water for the town; observing that though he himself had engaged a considerable time ago in an analysis of the water of the Hooghly, it was not at all in connection with this subject, but only as a contribution to general science; but that some of the results obtained had induced him, on account of their local interest, to bring them under the notice of the Society. He then referred to Dr. Macnamara's report on the Hooghly water to the Municipality, stating that, in general, his own results went to confirm those of the Report: in some particulars, not of small importance, they differed; and that in others he probably had added to the stock of information on the subject.

After glancing at the influence of the seasons on the river, the author referred briefly to the variations of the mineral constituents of the water at the different seasons, and the influence of the tides during the hot season. His own observations had been chiefly made on water from the river about two or three miles above the entrance of the Circular canal at the north of the town. They agreed generally with those of the Report referred to. For particulars and observations he referred his hearers to the paper, which would be published *in extenso*

in the Journal. He remarked on the great difference between the quantity of salt brought up by neap tides and by spring tides, the former bringing only about one-fourth of the salt the latter did: also on the difference depending on the time of tide, that being also great. The smallest quantity of salt was found at about the last two hours of ebb, and the first one or one and half of flood tide. Excluding the period of three or four months when the influence of the tides prevailed, the river water was on the whole purer, or contained less saline matter than that of any of the water companies supplying London as represented by the latest reports.

Attention was then directed towards the organic constituents of the water, which, with reference to sanitary considerations, were the most important impurities. Some remarks were made on the very incorrect processes which had been frequently employed by chemists for ascertaining the quantity of these, and the very unsatisfactory nature of the results. The process, however, had been improved of late, and with the aid of a fine balance, patience and care gave very fair results. By such means the author had determined the amount of organic matter in the river water at various seasons, but the results obtained were very different from those given in Dr. Macnamara's report, being very much smaller, more particularly in the case of the water in the hot season. On account of the difficulties attending the correct determination of organic matter by weight, a new process had of late come into favour, which was much simpler and easier of execution. This depended on the oxidising properties of the permanganate of potash. A weak solution of this, of known strength, was added with certain precautions to a measured quantity of water, until a slight shade of pink colour remained for a certain time. The purer the water, the less of the permanganate solution is required; the greater the quantity of this solution required, the more impure is the water; so that by delivering the solution from a graduated tube, the quantity required can be ascertained, and consequently the amount of impurity estimated, or rather the quantity of oxygen required to destroy it. This test does not indicate all the organic matter, only some kinds of it; but it acts on those kinds of organic impurities which have an offensive smell and destroys them. The results of the estimation by weight of the organic matter and of the amount of oxygen required by this test

were in pretty fair accord, and agreed in indicating most organic impurity in the water of the rainy season, decreasing continuously after the rains, as the season advanced. This decrease was not so well observed in the weight, which was indeed greater during May and June, but only to a small extent; and this, it was considered probable, might be rather apparent than real, and owing to practical difficulties in the process and the large quantity of saline matter from the sea mixed with the water. At all events, according to the author's results, the amount of organic matter in the river water on the 14th June last, at flood tide, at the extreme height of the hot season, was only from 1 to 1½ grains per gallon. These results were very different from those generally received, which supposed a minimum of organic impurity during the rains, gradually increasing, and during the hot season rising to eight, ten, or even more grains per gallon. But they were quite in accordance with the latest results of the examination of the London waters by Professor Frankland, who found that "the waters in question are much purer in dry than in wet weather, even if the drought occurs during a very hot summer." And on consideration it is found to be in accordance with what may be expected. During the whole dry season, both cold and hot, the products of vegetable and animal decomposition have remained in the soil and accumulated, but when the rains come they are washed off into the river, both in solution and suspension. When the rains cease, the impure mud subsides, and the oxygen, freely absorbed by running streams, oxidizes the organic matter in solution and purifies the water.

The nature of the organic matter was then enquired into,—namely, its vegetable or animal origin. The latter was considered the most dangerous kind, and the means of judging of its presence considered. The presence of Ammonia was considered a good indication of the existence of animal matter, and some examinations for determining its proportion had been made; the proportion in the Hooghly water was small. Other means of estimating the amount of animal matter indicated the same thing.

The question as to the extent of contamination of the river water during the hot season under tidal influence, by the sewage of the town was considered, and the author had come to the conclusion that at the very height of the hot season the water was no worse, as regards

organic impurities, or not so bad as it was during the rainy season. This conclusion, he considered, was supported by the result of some examinations of the tank waters, of which several had been subjected to partial analysis, and all of them, even the best, found to contain more organic impurity than the river at its worst. Their stagnant water was not subjected to the purifying influence of atmospheric oxygen as that of the running stream was.

The general conclusion arrived at by the author was that, if his results were correct, the river was a better source of supply than the tanks, and that probably the principal advantage of taking the water from Pultah was the avoidance of the sea water brought up by the tides during the hot months.

The following Books have been added to the Library since the meeting held in May.

Library.

Presentations.

*** The names of Donors in Capital.

Rig Veda Sanhita, ऋग्वेदसंहिता, by Professor Max Müller, Vol. IV. —The Bengal Government.

Erster und Zweiter Jahresbericht des Vereins für Erdkunde zu Dresden.—The Geographical Society of Dresden.

Erster Jahresbericht des Naturwissenschaftlichen Vereins zu Bremen.—The Society of Natural Science of Bremen.

The Introduction of Chinchona cultivation into India, by C. R. Markham, Esq.— The Author.

Address of the native nobility and gentry of Lahore to the Hon'ble F. D. McLeod; and his reply.—The Punjab Government.

The Punjab Educational Magazine, Vol. I., Parts 11 & 12.—The Same.

The Isothermal and Meteorological Chart of India and High Asia, by Prof. H. de Schlagintweit.—The Inspector General Medical Department.

Annual Report (Fifth) of the Agri-Horticultural Society of Oudh. —The Society

Gayá Máhátmyam, गयामाहात्म्यं, by Táráchánd Sharmá.—Babu Isán Chandra Bosu.

Census Report of Calcutta, for 1866.—THE BENGAL GOVERNMENT.

Sketches of the Shevaroy and Pulni hills, by Lieut.-Col. D. Hamilton.—THE MADRAS GOVERNMENT.

List of vertebrated animals living in the gardens of the Zoological Society of London.—BABU RÁJENDRALÁLA MITRA.

Selections from Papers on Indigo cultivation in Lower Bengal.—BABU RÁJENDRALÁLA MITRA.

Catalogue of the Central Library, Roorkee Civil Engineering College, by H. B. Medlicott, Esq.—THE ROORKEE COLLEGE LIBRARY.

Ajunta Inscriptions, by Dr. Bhaudaji.—THE AUTHOR.

Sah or Rudra Dámá Inscription on a Rock at Junagur; also of one of Skandagupta on the northern face of the rock.—THE SAME.

Catalogue of the Meteorites in the Museum of the Geological Survey of India.—THE SUPERINTENDENT OF THE GEOLOGICAL SURVEY OF INDIA.

The Sacred Books of the Buddhists, compared with History and modern Science, by S. Hardy, Esq.—THE AUTHOR.

Summary of Information regarding Ceylon, (a chart,) compiled by A. M. Fergusson, Esq.—THE COMPILER.

Veiviser ved Geologiske excursioner i Christiania Omegn, von Profr. L. T. Kjerulf.—THE AUTHOR.

Om Vægtlodderne i Nummelandsfundet, af Profr. C. A. Holmboe.—THE AUTHOR.

Om guul og röd Jord i Gravhöie, af Profr. C. A. Holomboe.—THE AUTHOR.

Om de i norge Forekommende fossile dyrelevning fra quartærperioden, af Dr. M. Sars.—THE AUTHOR.

Norges Ferskvandskrebsdyr, von M. G. O. Sars.—THE AUTHOR.

Norges Mynter i Middelalderen, von Profr. C. A. Holmboe.—THE AUTHOR.

Maps of Jamo, Kashmir and adjacent Districts; North Eastern Frontiers of Bengal; District of Jhelum and Rawal Pindee; and the Central Provinces.—THE SURVEYOR GENERAL'S OFFICE.

Statements of Weekly Meteorological Returns in the District of the North Western Provinces.—THE GOVERNMENT OF THE N. W. PROVINCES.

The Indian Museum and the Asiatic Society of Bengal.—BABU RÁJENDRALÁLA MITRA.

Report of the Nagpur Exhibition of Arts, Manufactures and Produce.—THE COMMISSIONER OF NAGPUR.

Report of the Superintendent of the Government Observatory, Colaba.—THE SUPERINTENDENT OF THE COLABA OBSERVATORY.

Journal of the Statistical Society of London, Vol. XXIX, Parts 1 and 2.—THE SOCIETY.

Journal of the Agri-Horticultural Society of India, Vol. XIV, Parts 2 and 3.—THE AGRI-HORTICULTURAL SOCIETY.

Proceedings of the Royal Society of London, Vol. XV, Nos. 82 to 84.—THE ROYAL SOCIETY OF LONDON.

Rahasya Sandarbha, Vol. II, Nos. 30 to 33.—THE CALCUTTA SCHOOL-BOOK SOCIETY.

Report of the Committee of Bengal Chamber of Commerce, from 1st Nov. to 30th April, 1866.—THE BENGAL CHAMBER OF COMMERCE.

Report (Annual) on the Administration of the Central Provinces, for 1864-65.—THE GOVERNMENT OF BENGAL.

Selections from the Records of the Madras Government, Nos. 86 and 87.—THE MADRAS GOVERNMENT.

Journal of the Royal Geographical Society of London, Vol. XXXV. —THE SOCIETY.

Journal of the Chemical Society of London, Vol. IV, from January to June, 1866.—THE CHEMICAL SOCIETY OF LONDON.

Journal of Sacred Literature and Biblical Records, Nos. 16 to 18. —THE EDITOR.

The Publications of the Scientific Society of Allyghur, No. 9.— THE SOCIETY.

Report (General) on Public Instruction on the Lower Provinces of the Bengal Presidency.—THE DIRECTOR OF PUBLIC INSTRUCTION.

Proceedings of the Agri-Horticultural Society of the Punjab, from August, 1865 to June, 1866.—THE SOCIETY.

The Calcutta Christian Observer, Nos. 316 and 317.—THE EDITOR.

Proceedings of the Royal Geographical Society of London, Vol. X, Nos. 2 and 3.—THE ROYAL GEOGRAPHICAL SOCIETY.

Report (Annual) on the Administration of the Coorg District, for 1864-65.—THE BENGAL GOVERNMENT.

Ditto, ditto of Mysore, for 1864-65.—THE SAME.

Zeitschrift der Deutschen Morgenlandischen Gesellschaft, Vol. XX. No. 1.—THE SOCIETY.

Report on the Survey Operations of the Lower Provinces of Bengal, for 1864-65.—THE BENGAL GOVERNMENT.

Quarterly Journal of the Geological Society of London, Vol XXI, Nos. 85, 86.—THE SOCIETY.

Selections from the Records of the Government of India, (Foreign Department), No. 49.—THE GOVERNMENT INDIA.

Report (Annual) of the Geological Survey of India and of the Museum of Economic Geology, for 1865-66.—THE SAME.

Proceedings of the Zoological Society of London, Illustrations, for 1848-60.—THE SOCIETY.

Fyzabad Settlement Report, Nos. 1, 2, and 3.—P. CARNEGY, ESQ.

Selections from the Records of the Government of India, (P. W. D.) Reprint Nos. 6 and 7.—THE GOVERNMENT OF INDIA.

Norges Officielle Statistik, B. No. 1, 1860-62; C. Nos. 3, 4, 5, 7, 1862-64; D. No. 1, 1862; and F. No. 1, 1863-64.—THE ROYAL UNIVERSITY OF CHRISTIANIA.

Exchanges.

The Athenæum, from March to June, 1866.

The Philosophical Magazine and Journal of Science, Vol. XXXI, Nos. 209 to 213.

Purchases.

The Annals and Magazine of Natural History, Vol. XVI, Nos. 100 to 103.

Comptes Rendus de l'Académie des Sciences, Tome LXII. Nos. 11 to 26, and Tome LXIII, No. 1, with an Index.

The Edinburgh Review, Vol. CXXII, Nos. 252 and 253.

Journal des Savans, from February to June, 1866.

The Quarterly Review, Vol. CXIX, No. 238.

Revue des Deux Mondes, from 15th March, to 1st July, 1866.

Revue et Magasin de Zoologie, Vol. XVIII, Nos. 3 to 6.

Journal American Society of Science and Arts, Vol. XL, Nos. 120 to 123.

The Westminster Review, Vol. XXIX, Nos. 58 and 59.

Numismatic Chronicle and Journal of the Numismatic Society, Vol. V, No. 21.

Abhandlungen für die Kunde des Morgenlandes, Vol. IV. Nos. 2 and 3.

The Ibis, a Magazine of General Ornithology, Vol. I, No. 6.

Annalen der Physik und Chemie, Band CXXV, Stück 1, 2, 8, 9, 10, 11, with an Index.

The Calcutta Review, Nos. 85 and 86.

The Indian Annals of Medical Science, Nos. 19, 20.

The Indian Medical Gazette, Nos. 1 to 9.

Dictionnaire Turc-Arab-Persan, by Dr. J. F. Zenker, No. 9.

Exotic Butterflies, by W. C. Hewittson, Parts 58 and 59.

Sanscrit Worterbuch, von O. Bohtlingk und R. Roth, 30th Lifer.

A Dictionary of the Bhotanta or Bhotanese language, by F. G. C. Schroter.

Birds of Asia, by J. Gould, Vol. XVIII.

The Ferns of British Indian, being figures and description of Ferns from all parts of British India, by Capt. R. H. Beddome, Parts 11 & 12,

Catalogue Annuel de la Librarie Française, par C. Reinwald.

Reeve's Conchologia Iconica, Parts 254, 255, 256, 257.

Encyclopædia Britannica, or Dictionary of Arts, Science and General Literature, Vols. I to XXI. with an Index, 8th Edition.

Zoological Sketches, by J. Woolfe.

Architecture of Ahamedabad, by J. Fergusson.

Shaiva Sudhácar Grantha, शैवसुधाकरग्रन्थ, by Sadanand Swamin.

Náráyana Sárasangraha, नारायण सारसंग्रह, by Ramanuja.

Sri Sankara Vijaya, श्रीशङ्करविजय, with Madhabacharjya's Comtry.

Glossarium Comparativum Linguæ Sanscritæ, a F. Bopp, Part 1.

Essai d'une Faune Entomologique de l'Archipel Indo-Néerlandais, par S. C. S Vollenhoven. 2nd Monographe.

Manetho und der Turiner Konig Papyrus, von F. J. Lauth.

Les Prolégomenes d'Ibn Khaldoun, par M. de Slane, 2 Parts.

Reliquiæ Aquitanicæ, being contributions to the Archæology and Palæontology of Périgord, by H. Christy.

Denmark in the early iron age, by C. Englehardt.

Die Persischen Handschriften der herzoglichen Bibliothek zu Gotha, von Dr. W. Pertsch.

Description de l'Afrique et de l'Espagne, par M. J. Goeje.

Jacut's Geographisches Worterbuch, von F. Wüstenfeld.

Grammaire Javanaise, par L'abbé P. Favre.

Sawitri, von F. Ruckert.

Die Völker des Oestlichen Asiens, von Dr. A. Bastian.

Les Zodiaques de Denderah, par F. J. Lauth.

Die Propædeutik der Araber im Zehnten Jahrhundert, von Dr. F. Dieterici.

Die Orientalischen Handschriften der herzoglichen Bibliothek zu Gotha, von Dr. W. Pertsch.

A Catalogue of Phytophaga, by H. W. Bates.

Kural of Tiruvalluver, (High Tamil text,) by C. Graul.

Sanscrit Grammar, by Professor Max Müller.

Practical Grammar of the Sanscrit Language, by M. Williams.

De Vogels van Nederlandsch Indie, par H. Schlegel, Monographs 1, 2.

Massif du Mont Blanc, extrait des minutes de la Carte de France, par Major M. Mieulet.

Sanscrit Dictionary, by T. Benfey.

Legends and Theories of the Buddhists, by S. Hardy.

Die Märchen des Siddhi-Kür, von Bülg.

Die Indo-Australische Lepidopteren-Fauna, von G. Koch.

Ibn Mâlik's Lâmîyat al Afâl, von Dr. W. Volock.

Etude sur les Origines Bouddhiques, par G. d'Eichthal.

Cosmographie de Chems-ed-din, par A. F. Mehern.

Wilson's Works, Vol. VI; the Vishnu Puran.

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR OCTOBER, 1866.

The Monthly General Meeting of the Asiatic Society of Bengal was held on Wednesday, the 3rd October, at 9 P. M.

A. GROTE, Esq., in the Chair.

The proceedings of the last meeting were read and confirmed.

The following presentation was announced:—

From Professor R. Schlagintweit, 100 copies of the Chart of the Meteorology of India, for distribution.

The following report of the Philological Committee recommending the publication of the Áyin-Akbary, was read; and adopted by the meeting.

REPORT.

The Council beg to report that they have made arrangements for the publication of a new and carefully collated edition of the Áyin-Akbary in the new series of the Bibliotheca Indica.

The materials available for the work consist of nine MSS., viz.:—

1. A MS. belonging to Nawab Ziyáuddín.
2. A MS. belonging to Colonel Hamilton.
3. A copy of the lithographed Delhi edition.
4. A copy forwarded by Mr. Ward.
5. A copy (parchment) belonging to the Asiatic Society.
6. Do. do. do.
7. Do. do. do.
8. Do. do. do.
9. A copy belonging to Sayyid Faqíruddín. No. 2, is an old and very valuable manuscript, supposed to have, at one time, belonged to the Emperor Shah Jehan.

The cost of printing the work has been estimated at Rs. 9,000, more than half of which will be covered by a special grant of Rs. 5,000, which has been sanctioned by Government, on condition of the Society placing at its disposal 250 copies of the book when completed.

It will be edited by Mr. H. Blochmann, under the superintendence of the Philological Committee.

By order of the Council,

RÁJENDRALÁLA MITRA,

Phil. Secy. Asiatic Society.

27*th August*, 1866.

The following gentleman was nominated for election as an Ordinary Member at the next meeting:—

Kumár Harendra Krishna Báhádur; proposed by Bábu Rájendralála Mitra, seconded by Mr. Grote.

Bábu Rájendrálála Mitra read the following remarks on the papers by Messrs. Beames and Blochmann on "Om" and "Amen," submitted at the last meeting.

"I had expected to have been present at the Society's meeting in September last, and to have made a few remarks on the papers, then submitted, from Messrs. Beames and Blochmann, on the etymology of the word *Amen;* but I was unavoidably prevented almost at the last moment; I take this opportunity, therefore, of noticing a few salient points in the discussion raised by those gentlemen.

In my observations on the subject in March 1865, I said that the facts then stated, led me "to the conclusion that the two are the same, or dialectic varieties of the same word, which the Hindus and the Hebrews either had in common before they separated into the two races, or which one of them borrowed from the other." The facts to which I then alluded were the identity of the meaning of the two words; their strong similitude in sound; their origin (as it seemed probable to me) from the same roots; and the mysterious importance attached to them by the races who use them. Mr. Blochmann, commenting on my observations, at the time, was not disposed to question the position I had assumed, and stated that 'the Sanskrit "*Om*" may have had originally a final *n*, and also the meaning of an affirmative particle. If so, the syllable *om* alone would express this fully, so that we

need not lay a particular stress on the final *n* in *amen* and the *n* of the original form of the Sanskrit *om*.' (Proceedings for 1865, p. 48.) In his remarks on Mr. Beames's paper, he has, however, so far changed his opinion as to state that he agreed with Mr. Beames in thinking that "there is no connection between *Amen* and *Om* as proposed" by me. (Proceedings for 1866, p. 195.)

"Mr. Beames's arguments against me are based on the etymology and the meaning of the word *Amen*, which, he says, are not what I assumed them to be; and if so, my conclusion must be wrong. According to him, the original Semitic biliteral root *man* with a prosthetic *a* forms *amen*, and as that is very different from the Sanskrit *av* of *Oman*, the two cannot be said to have come from the same root. This would no doubt have been a strong argument, had the derivation given by Mr. Beames been not open to question. Such is, however, not the case. The original of *amen*, says Dr. Johnson "has given rise to many conjectures," and even at the last meeting, two such distinguished scholars, as Messrs. Beames and Blochmann, were diametrically opposed to each other, one maintaining *am*, and the other *man* to be the original root. The Rev. J. Wenger, the most learned Hebrew scholar in Calcutta, and the Rev. Professor K. M. Banerjea wrote to me, when I consulted them in 1865, that *Am* was the root of *Amen*. Scaliger assigned to it an Arabic origin, and took ءمن to be its radical. But the great body of Biblical commentators and lexicographers give the Hebrew אָמַן as the root of the Greek *αμην*, and consequently of the English *Amen*. Kitto, in his Cyclopædia of Biblical Literature, and Calmet, in the Dictionary of the Bible, are positive on the subject. None of them has attempted to go beyond the triliteral root. Anxious as I am to avoid confounding accidental phonetic similitude with radical connexion proved by strict grammatical analysis, I must observe that as regards *Amen*, everything beyond its triliteral root appears dark and undefined,—certainly not in a condition to justify any positive deduction. Under the circumstances, the question at issue must be decided by other than grammatical evidence. So far as mere sound is concerned, seeing on the one hand, that the triliteral root *aman* is as old as the Pentateuch, which, according to Mr. Beames, dates from at least 1200 B. C., and that a great many Semitic roots are

triliteral; and on the other, that the oldest form of the Sanskrit *om* is *oman*, and that the "Unádi Sutras" which make *av* to be its root, were designed to explain the origin of such words whose radicals could not be explained by the ordinary rules of grammar, leaving it thereby very doubtful whether *av* or any other syllable was the root of it, I cannot but think that there is sufficient similitude between the two words to justify the conjecture I have made.

The next argument in favor of a common origin of the two words is their meaning; and in that respect there is perfect identity. I have already shewn in my remarks in March 1865, that the Sanskrit *om* is a particle of assent and means "be it so," "be it confirmed," "so be it," from the original etymological meaning "to confirm," "to support," to uphold," &c. It also means "true," "truth," "verily," "yes," and "God." *Amen* in Greek and Hebrew has exactly the same meaning. Glass, in his Philologica Sacra, says of it: "radix אמן in Niphal נֶאֱמָן *significat firmum, fidum, stabile esse, verificari, confirmari*, in Hiphil הֶאֱמִין *credere, fidere*," (p. 396). All the other authorities which I have consulted, supply the same meaning. Buxtorfius, in the Lexicon Hebraicum et Chaldaicum, has "אֱמֶת veritas *Jes.* 65-16, inde transit in Fidentis et assentientis particulam *amen*, Deut. xxvii. 15, quasi dicas, 'Firmum, Rite est, Vere, fiat.' In Novo Test. ubi in principio sententiæ adhibetur, transit in naturam adverbii, et notat asseverationem, reique confirmationem." The different passages from the Bible quoted in Cruden's "Concordance" point to the same meanings.

The circumstances too in which the two words are used are identical. The use of the word 'amen' after imprecations in Num. v. 22 and Deut. xxvii. 15, et seq. has its counterpart in the *om* in the Bhuteah malediction against the English, the translation of which led me to notice the identity of the two words. It would be easy to point out many other instances of the use of *om* after imprecations. After prayers, *om* is as universally used by the Hindus, as *amen* by the Christian Churches.

"As to the mystic importance attached to the two words, it is well known that the Hindus hold their *om* in the highest veneration as an emblem of the Deity, and in Isaiah lxv. 16, the expression, "God

Amen," or "God of truth" has as close a resemblance to "Om the God" or "God Om" of the Sanskrit as possible.

"Mr. Beames emphatically declares that 'Amen' never had, nor has, and probably never will have, any mystic meaning.' The fact, however, that the Rabbis did derive the word from the initials of *Adonai Melech Neeman*, and did assign to it the meaning *Dominus Rex fidelis*, is sufficient evidence to shew that it once had been used in a mystic sense. The use of it bodily in all translations of the Bible is another proof that more is assigned to it than could be expressed by a translated term.

"It has been said that the translators of the Bible left a few Hebrew words, such as *Hosannah*, *Hallelujah*, untranslated in the Greek, and *amen* was one of them. But that would not sufficiently account for its presence in translations in the modern languages of Europe, and in Bengali, Uriah, Hindi, and a host of other foreign languages. If the word meant simply "yes," or "be it so" and no mysterious or uncommon theological importance was attached to it, it would be strange to suppose that none of the many hundred dialects into which the Bible has been translated could find an equivalent for it. No word could be more universal than that which implies "yes," and if it were sought, it would be found most easily in every language on the face of the earth. It is worthy of note also that *amen*, when used adverbially for "verily," or as an adjective, is always translated, and that only when used after prayers and imprecations it is allowed to stand in its original form. Nor is a reason wanting for this diversity. The Greek and Latin Churches admit that they observed more energy in the word than they could find in any other, and St. Jerome says, 'that at Rome, when the people answered Amen, the sound of their voices was like a clap of thunder.' *In similitudine cælestis tonitrui Amen reboat.* The Cabbalists too, 'according to their usual manner of finding a hidden meaning in words which they call *notaricon*, out of the letters of amen found the whole phrase *Adonai Melech Neeman.*' (Rees's Cyclopædia, *s. v.* Amen.) No doubt the word existed long before the Cabbala and the Cabbalists, but as I allude to them to shew that it was at one time used in a mystic sense, and not in support of anything as to its etymology, the whole of the argument contained under the 4th head of Mr. Beames's paper is thrown away.

The question at issue is, whether or not the two words had ever been used in a mystic sense; and it is abundantly evident that at one time in their history they were.

"The argument embraced in the remark that 'the idea of Beni Israel at, say 2,000 B. C., having any means of communication with the authors of the Vedas is out of the question,' is equally thrown away. My hypothesis is, that at a time anterior to history, when Beni Israel and the Aryans lived in a common home or were next door neighbours, that they got the word, and the more primitive times we go to, the more favourable would it be to my theory. To meet it by saying that it was 'out of the question,' is not to meet it at all.

"I admit that my hypothesis is thrown out as a mere conjecture, for of times before B.C. 2000, we can have, in a matter of this kind, nothing but conjectures, only more or less probable according as they are based on premises more or less consistent; and I shall not deny that as yet philological researches have not found more than a few faint traces of a community of origin between the Semitic and the Aryan; but Bunsen, Max Müller and a number of other distinguished philologists are in favour of the theory which would assign a common origin to the two languages, and therefore the fact can no more be used as an argument on the one side than on the other."

The following communications were announced:

1. From the Assistant Secretary Government of Bengal further communications on the Earthquakes of India.

2. From Baboo Gopinath Sen, Abstract of the Hourly Meteorological Observations taken at Calcutta for June, 1866.

3. From D. Waldie, Esq., Supplementary Observations to experimental Investigations connected with the water supply to Calcutta.

The Report on Barren Island received from Major Ford, and acknowledged at the meeting held on the 4th July, 1866, was read, as follows:—

In accordance with instructions received, we embarked on board H. M.'s Steamer "Prince Arthur" on the evening of the 18th April, steamed towards Barren Island, and were lying off it by daybreak next morning. We at once landed the coolies we had brought with us, as also their rations, water, &c. and proceeded to examine the Island.

Fodder.—We found an abundant supply of good fodder: grass of two kinds principally, (some *Andropogon* and *Pogonatherum crinitum*) growing generally over the Island, excepting the parts covered with lava and scoriæ from the volcano. Arrangements were at once made to cut down and take on board as much as possible, and with the sixty coolies we had, we were able, during the two days we lay off the Island, to ship what was estimated to be about a month's supply for the whole of the cattle in the Settlement.

* * * * * *

General Description of the Island.—The Island is of an irregular circular form, the greatest diameter of which is about two miles; in the centre of the Island is a regular cone of grey ashes, which from a distance looks quite round and smooth, with no vegetation of any kind on its surface; and from its apex, during the whole of the time we were there, clouds of white watery and sulphurous vapours were evolved. Around the base of the cone is an annular valley enclosed by a circular wall, the inner sides of which are smooth and regular, with a slope of from 30° to 40°, but the outer sides are more rugged, and send irregular spurs towards the sea. The height of the surrounding wall varies: towards the south-west, it is a little higher than the cone, but throughout the most of its circuit it is lower, and towards the western part of it, there is a gap, through which the lava seems to have flowed into the sea and formed a small Bay, which we found the only practicable landing-place Across the small Bay, there issued, from underneath the lava, a series of hot springs mixing with the water of the sea, which at many places was quite hot; at low tide, in one place where vapour was arising, the temperature of the water, where it was seen to bubble up, was found to be 163° F. and at another 158° F. Surrounding the base of the cone, the valley is filled with black irregular massos of lava, which seem to have run in a stream towards the gap, through which it found an exit. Between the black masses of lava and the outer wall, the valley is covered with long bamboo grass, and the soil seems to be sand mixed with ashes, while the slopes of the outer wall afford the other description of grass discovered *(Pogonatherum crinitum)*.

Water.—No water of any description could be found on the Island. An attempt was made to dig a well, but by the time they had

got six feet deep, the men could not stand the heat; so we were obliged to give up the attempt. It seems doubtful whether any cold water could be procured, but we have no doubt that hot springs of fresh water might be discovered, especially as the sea water at the part where the hot springs issued, was only slightly brackish.

Rocks.—The whole of the rocks of the Island seem igneous basaltic rocks of different colours, of which several specimens have been brought; and the lava is composed of the same material as the substrata of the Island; the only difference that could be discovered being caused by the action of fire.

Vegetation.—No trees of any height were discovered, but the slopes and ridges afford ah abundance of shrubs and brushes, some of them rising to the height of about twenty feet. We had no time to wander into the wooded part of the Island, so that we were unable to collect specimens of the shrubs, but after being accustomed to the one tinted jungle of the Andamans, we were very much struck with the beauty and variety of the foliage of the shrubs and brushes, the different shades of green varying from a very dark almost black to a very pale yellow, having a very fine effect when the setting sun shone upon them.

Animals.—The great scarcity of animal life on the Island was noted; no trace of any mammal was discovered, except a few Rats, which some of those who slept on the Island saw, but were unable to catch.

Birds were rare—a few Sea Gulls, Sea-hawks and Swallows were seen, and one or two small birds were noticed perched on a shrub, but we could not get near enough to see what they were. Even amongst insects, the only ones seen were ants and moths.

Cone.—Nearly the whole of our party attempted to ascend the cone, the inclination of whose sides is about 40°, and it was with some considerable difficulty that we were able to reach the top. The lower part of the slope is loose ashes mixed with large stones, which rolled down on being touched; and these constitute the chief danger in the ascent, as great care must be taken that they do not fall on any one coming up behind. The north-west side of the cone was found to be the easiest of ascent, and became easier as we got higher, the loose ashes becoming less, and the stones becoming adherent by the lava or gypsum poured between them. For the last 100 feet or more of

the ascent, the surface was quite hot, and the quantity of gypsum had increased so much as to give the surface a whitish appearance; and at several places were deep fissures, from which a whitish vapour was evolved and sulphur deposited around the openings.

On arrival at the top, we noted, under the shade of an umbrella, the change in an Aneroid Barometer and a Thermometer we had taken along with us; and the following was the result, from which we deduce that the height of the cone is as nearly as possible 980 feet.

	Time.	Thermometer.	Barometer.
At level of the Sea	6.30. A. M.	82° F.	30.126
At top of the Cone	7.45. A M.	88° F.	29.145

The top of the cone presented on a minor scale the appearance of the outer wall of the Island: so after we had reached the top, we had again to descend about 20 feet into the circular crater forming the centre of the cone, in which two white crystalline masses were discovered, which appear principally to be composed of sulphate of Lime. These, as well as a few bags of sulphur, we brought down with us.

Sulphur.—The quantity of sulphur was very small, and only found around the mouths of the deep fissures, from which the vapour exuded, and far too small in our opinion to be made of any practicable use.

After we had descended the cone, on the morning of the second day of our stay, it was determined to steam round the Island to look for an anchorage, and in the evening to take on board what fodder had been cut, and then to return.

We brought from Port Blair with us a number of cocoanuts, plantain trees, and pineapple cuttings, and these we planted on the ground from which the grass had been cut, in hopes that they might be of use to some future visitors.

Anchorage.—In steaming round the Island, the lead was kept going, but from the deep dark blue appearance of the water it could be judged that there was but little probability of obtaining an anchorage. The only place where there seemed any chance, was on the south-west, where a small sandy beach, with a heavy surf running, was discovered, above which four old cocoanut trees were seen. A boat was sent towards the shore, and got bottom at 35 fathoms, but as we had not much time to spare, the whole of the ground could not be

gone over, and if any use is to be made of the Island, the soundings around the south-west part might be more minutely examined.

Burning Grass.—Before leaving, we set fire to the grass which was uncut, but unfortunately, immediately after, a heavy shower of rain fell, which must have extinguished the fire in the valley, although we saw it running up the hill sides long after we left.

By evening of the 20th, all had re-embarked, and we steamed slowly towards Rose Island, on which we had determined to land on our way back, for the purpose of planting some cocoanuts, as well as of seeing the Island.

Rose Island.—We anchored off the Island next morning, and went on shore after breakfast; and while some of us were employed planting cocoanuts, the others examined the Island.

The Island lies low, and is but thinly covered with jungle; the soil is sandy, or a gravelly clay loam, not unlike the soil in some places on Barren Island. On wandering along the beach, we discerned growing here and there patches of grass of the same kind as grows in the circular valley on Barren Island, and it at once occurred to us, that if the Island was cleared, it would soon be covered with grass, and would make a good depôt for the cattle of the Settlement.

If the above idea should meet with little approval, we would suggest that the whole of the Island, except a circular belt around the Coast be cleared: and to assist the growth of the grass, which we have no doubt would be natural, a quantity of seed procured from Barren Island might be scattered. Good anchorage is found all round the Island, and as it is only twenty miles from Port Blair, we think it might be turned to advantage.

List of Specimens accompanying the Report on Barren Island.

No. 1. Grass found in valley, a species of *Andropogon*, no flowers found to show species.

No. 2. Grass found on the slopes of the Hills; *Pogonatherum crinitum*.

No. 3. Twelve specimens chipped off from various rocks which seemed to differ somewhat in colour.

No. 4. Black lava found around the base of Cone (4 pieces).

No. 5. Sand mixed with ashes thrown up by volcano.

No. 6. Six specimens of a mixture of gravel and sulphur found in top of Cone.

No. 7. Crystalized sulphur.

No. 8. Sulphur as found around fissures near crater.

No. 9. Several specimens of lava or gypsum, found on top and sides of cone.

No. 10. Two white masses found in the centre of the crater; supposed to be principally composed of sulphate of lime.

No. 11. A sample of a red earth found on the Island.

No. 12. Samples of conglomerate.

No. 13. Stones thrown up by volcano.

No. 14. Specimens of shells found on rocks. Shells (excepting the common rock cowrie) were rare, on account of the steep dip of the rocks.

No. 15. Coral found near hot water springs, having a yellowish colour when taken out of the water.

Signed A. Gamsees, M. D.
Arthur F. Laughton, *Lieut.*
Sub-Assistant Commissary General.
J. N. Hompray,
Harbour Master.
} *Members of Committee.*

(Signed) J. H. Fraser, *Captain,*
Port Blair 23rd April, 1866. *Assistant Superintendent in Charge.*

(True Copy)
W. Ford, *Major.*
Supdt. Port Blair.

On the invitation of the Chairman, Mr. Medlicott undertook to report upon the specimens forwarded with the Report.

Mr. D. Waldie read his supplementary note on the composition of the water of the Hooghly. The following is an abstract.

Mr. Waldie began by reminding the Society that in his paper read at last meeting he had pointed out a very considerable discrepancy between his own results respecting the amount of organic matter in the river water, more particularly during the hot season, and those of the Report to the Municipality then referred to, and it was a matter for consideration how they were to be accounted for or reconciled. It had been suggested that a difference might have been occasioned by the

length of time the water had been kept after collection before the analyses were made, as high chemical authority could be adduced for the necessity of commencing the analysis without delay. Now he could not but admit that there had been more or less delay in commencing the analysis of the greater part of his samples, as he was not aware that such conclusions had been arrived it; and he had himself, from consideration of the great exposure that surface waters supplying a river had already undergone, rather formed the opinion that the decomposition of the organic matter would probably have pretty well reached the maximum, so as not to leave much room for further decomposition. His own observations had confirmed him in this so far as extended keeping was concerned; but as there possibly might be a certain amount of rather rapid decomposition during the first week or two which he had overlooked, it appeared desirable to endeavour to ascertain the truth of this or otherwise, if possible. With that view he had, during the last month, made a considerable number of experiments and analyses.

The plan of testing by the oxidising action of permanganate of potash offered the readiest means for doing so, and this certainly indicated a distinct diminution of the amount of oxidizable matter, and a rapid one too, occurring even within the first twenty-four hours. But though the diminution was considerable, sometimes one-third or one half of the whole amount, yet the absolute quantity was small; and besides, this mode of testing gave no reliable information respecting the quantity of all the organic matter, which was the point at issue, and which could only be determined by ascertaining its weight.

As the question principally had reference to the water of the hot season, and of course no recent water of this kind could be procured, mixtures were made to imitate it, from samples of hot season water which had been kept, with additions of portions of sewage water. Such were prepared and the organic matter in them determined immediately, and afterwards at an interval of 12 or 14 days. A diminution was found to have taken place, but to a comparatively small extent, even though it was found that a considerable degree of putrefaction took place in them. But these mixtures, though containing from $\frac{1}{10}$ to $\frac{1}{2}$ of sewage, contained only from $1\frac{1}{2}$ to $4\frac{1}{2}$ grains organic matter per gallon; and yet, from their smell and other properties, it was quite impossible that the river water could be at all like the two worst of them. Be-

sides, comparing the sewage of Calcutta with the volume of water in the river, its proportion must be insignificant. An examination of some tank and river waters immediately after collection, and about two weeks interval or longer, indicated the same thing, a loss of from about 10 to 25 per cent., which would not increase the author's estimates more than about half a grain per gallon.

Mr. W. further observed that perhaps a quotation of other results than his own might have more weight, and again referred to Dr. Frankland's analysis of the London waters for the largest amount of organic matter,—about 2½ grains per gallon,—found in the worst case; and to the general observations of the Metropolitan Medical Officers of Health agreeing with Dr. Frankland's. He further referred to Messrs. Lawes and Gilbert's analysis of the sewage of Rugby &c., (in the paper formerly quoted,) who found in the river Wandle, after it had received the sewage of Croydon, little more than 2 grains per gallon of organic matter, and in the liquid part of the sewage of Rugby only from about 7 to 8½ grains of organic matter per gallon. So that if the river water in May and June contain about 8 grains organic matter per gallon, and this excess derived from the Calcutta sewage, it must be as bad during these months, in regard to organic matter, as the liquid part of the sewage of Rugby, a supposition in the author's opinion altogether incredible.

He further observed that there was no way of reconciling the discrepancy, (if there was no considerable error in the analyses,) but by supposing, during the hot season, the presence in the water of a considerable quantity of organic matter, possessing no bad smell, but capable of undergoing rapid decomposition. He could not deny the possibility of this, but had seen no reason to believe it, while he had reasons for thinking it highly improbable. The point could only be decided positively by further examination at the proper season. He intended to prosecute the investigation, and hoped at another opportunity to lay the results before the Society.

Dr. Smith regretted that Mr. Waldie had not favoured the Society, at the close of his communication, with an epitome of the exact conclusions he had arrived at. The paper had been read on two different occasions—or rather two distinct essays had been read, with the interval of a month between them. Dr. S. hoped therefore Mr. Waldie

would excuse him if he asked: 1st. What was the exact result arrived at from all Mr. Waldie's analyses? 2nd. If Mr. W. felt satisfied that observations now described, corroborated those detailed in his former communication? 3rd. What was the largest quantity of organic matter Mr. Waldie had at any time, either during the past month or previously, been able to detect in Hooghly water?

Mr. W. replied, 1·4 grs. of organic matter per gallon was the largest quantity he had detected.

Dr. Smith then expressed his opinion on certain parts of the paper.

He stated his belief that, to have accurate and precise knowledge of the quantity of organic impurities in any water, such water ought to be analyzed *without delay* after being drawn. He believed the fact was an accepted one among chemists, that *by keeping* the foulest water, its organic impurities in time disappeared to a great degree, if not altogether, by the action of the oxygen of the water itself.

Mr. Waldie's specimens had some of them been kept so long as four months, and none (?), had been examined within less than a fortnight of the time that they were drawn from the river. This might be regarded as a most serious objection to the value of the analyses that had been instituted by Mr. Waldie, and of the conclusions drawn from such analyses.

Again, if Dr. S. was right in understanding that Mr. Waldie had, during the past month, analyzed mixtures of various kinds of water which he himself had *artificially* produced, and that from these (as being certainly more tainted than our river water) he had arrived at the conclusion that our river water was comparatively pure, and indeed much more so than had been laid down by Dr. Macnamara—if Dr. S. was correct in these premises, he could not but regard such experiments as very inconclusive, inasmuch as what was wanted was simply an analysis of the river water recently drawn, (whatever might be its qualities) and not a table showing the composition of mixtures which Mr. W. had made up in his Laboratory—by adding to certain ordinary water a certain quantity of offensive fluid taken from a drain in town, and again a certain quantity of water from the impregnated Salt Lake.

Mr. Blanford had stated that he was led to understand that a source of fallacy might be attributed to the faulty manner in which Dr.

Macnamara had caused the specimens of the river water to be drawn, upon which his experiments had been made.

Dr. Smith said he had Dr. Macnamara's Report before him, in which the preliminaries of his operations were most plainly laid down.

"*The water was taken monthly, from the centre of the stream, at six feet below the surface, and from three stations, namely, from opposite Cossipore, Pultah Ghaut and Chinsurah.*"

Dr. Smith thought the Society ought to be glad that so important a subject had been brought forward, one not of mere *abstract* scientific interest, but related to questions of very great practical importance.

It was note-worthy that the largest quantity of organic impurity at any time detected by Mr. Waldie was 1.4 of a grain per gallon, whereas the following was the result which had been arrived at by Dr. Macnamara with Cossipore water :—

"As might be expected, the water during March, April, May and June, is largely intermixed with the saline matters of the sea-water and the sewerage of Calcutta, *and during that time is unfit for human consumption.* * * * * * The saline contamination is not of such importance with regard to the use of Cossipore water for drinking purposes, as is the pollution which the water derives from the sewage matters, which the tide sweeps along with it. * * I found during last April, as much as 10 and 12 grains of organic impurity in the water." * * The organic impurity of Cossipore is highly nitrogenised, and while burning, evolves a strong and disgusting ammoniacal smell."

Here is a grand discrepancy, the true cause of which it would be well that the Asiatic Society should try to discover. Dr. S. was inclined to believe that the fact of Mr. Waldie's experiments having been postponed after the drawing of the water to weeks and even to months, was sufficient to account for the difference in the results now contrasted. Dr. Macnamara's observations had extended over *fourteen* months, and he had used water freshly drawn.

The conditions under which Mr. Waldie had gone to work were quite dissimilar to these.

Mr. Waldie had said he thought it simply *impossible* that the water of the Hooghly could be impregnated with so much as from 5 to 8 grains of organic impurity in the gallon. Dr. Smith was disinclined

to regard this as an impossibility, the more so because Dr. Macnamara had actually succeeded, by most conscientious manipulation, in discovering at one time of the year, 12 grains to the gallon in the water at Cossipore. Dr. Smith observed that when he only thought of all the possible and actual sources of impurity in this river, the impossibility alluded to by Mr. Waldie vanished entirely from his mind. We must remember, he said, the incalculably vast sources of vegetable and animal adulteration occurring in the whole previous course of so large an Indian river. We must think of all its tributaries, and of the thousands of *nullahs* that carried into it pollution of every conceivable kind—dead and putrid animals, decaying vegetation and waste matter from populations covering vast areas. We must think of the contamination arising from the shipping alone, at and near Calcutta. We must recall the fact of there being, at the present moment, such things as floating Latrines for thousands of our famine-stricken paupers who find shelter close to the river bank. We must think of the *twenty-two* sewers that disgorge themselves into the river between Chitpore and Hastings' Bridge, and this within a tidal influence by which much of the impurity is kept in a state of oscillation and not effectually carried away by the current. Besides this, we must remember that very vast quantities of night-soil are deposited daily in the Hooghly, the quantity being 180 tons daily.* If we think of all these impurities and couple them with the tropical conditions of heat and moisture in which they are found, it appeared to Dr. Smith not only not impossible, but even highly probable that there should be as much as 5 grains of organic impurity in each gallon of the water. Indeed the possibility might be said to resolve itself into a certainty, when we remember that Dr. Macnamara actually succeeded in discovering *twelve* grains to the gallon. Dr. Smith thought we were also justified in holding to a belief in such possibilities by *collateral* knowledge. He said it was well known that where organic impurities abound, Diarrhœa, Dysentery, Epidemic Fever and Cholera likewise abound. Here on the banks of the Hooghly they are rife; and much careful observation went to prove, beyond a doubt, that the excess of sickness from the diseases named arose from the fact of excessive

* In the actual discussion Dr. Smith had erroneously stated the amount at 180,000 tons. Hence Babu Rajendra Lal Miter's remark see page 225.

and unusual organic impurity in the water of the river itself. The products of fœcal decomposition were known to be there in vast quantities, because the fœcal matter was systematically and daily deposited there, so as, if possible, to poison the stream.

Why this should be carried out above the town instead of below it was, Dr. Smith observed, a puzzle to him. He thought it a very unjustifiable Municipal arrangement and highly objectionable.

Mr. Waldie had also described "crops and forests of vegetable matter" in some of his specimens. Were not these enough in themselves to account for a vast and unusual amount of organic adulteration? Dr. Smith thought this must be so, quite independent of similar impurities derivable from sources of *animal* decay.

Dr. S. said he could not help observing that Mr. Waldie himself had expressed very considerable uncertainty as to the value of his own results, and even as to the processes adopted, by which he had arrived at them.

This, Dr. S. was prepared to allow, was evidence of great candour on Mr. Waldie's part, who indeed, it must be allowed, had judged his own experiments very critically and severely. All this, however, was not capable of affecting the Tables now about to be published by the author of the present paper, and the relation of these to the remarkably different figures found in Dr. Macnamara's Report of the same analyses, conducted at the instance of the Calcutta Municipality.

Dr. Smith said he was not himself prepared to disprove that tank-water was less pure than Hooghly water; this was not the point he cared to discuss. On the other hand, he was quite ready to allow that water drawn from Pultah Ghat ought to be and is purer than that obtained under like circumstances at Cossipore, which is a good many miles lower down the river. But if he did not greatly mistake Mr. Waldie's meaning, the Society was now asked to accept these two broad facts :—

1st. That the water of the Hooghly is not so impure as it is usually believed to be, and as has been stated by Dr. Macnamara.

2nd. That it is fit for town consumption at all seasons of the year without greater danger than attaches to the impurities of the Thames, for example.

Dr. S. believed the Hooghly to be a most *unusually* foul and tainted

stream. We had proofs of this, already alluded to, in connection with the amount of prevailing disease—quite independent of difficult chemical analysis.

Dr. S. said he should like to see placards and sign-boards put up all along its banks, bearing the words *Poison—unmistakable active poison;* and he would even be glad to know that it was rendered penal for a person to drink of it, exactly on the principle of its being deemed advisable to punish those who might attempt to poison themselves with a solution of arsenic, or any other deleterious substance, which was likely to lead to fatal results.

With all due respect for Mr. Waldie's patient observations—to his unquestionable fairness and good faith in trying to place truth before the Society; with all proper regard also for those traditions of the Hindoos that would establish the sanctity and life-inspiring properties of the Ganges, Dr. Smith expressed the conviction that it is an indescribably unclean and revoltingly contaminated river, that it is a vehicle for every variety of excrementitious abomination—not only accidentally found in it, but wilfully deposited in its waters, and that its hygienic qualities are of the lowest possible standard.

He thought it very important that this fact should be acknowledged; otherwise the result of Mr. Waldie's experiments would go to prove that it is by no means an unusually tainted river, but, on the contrary, that it is one from which a sufficiently wholesome water-supply might be obtained on this side of Cossipore, an opinion strongly negatived—not only by all past Medical experience in the city, but also by the careful observations and published analyses of Dr. Macnamara. Two-thirds of the admissions into the Hospitals of Calcutta for cholera, Dr. S. remarked, came from the river. This in itself is enough to condemn the Hooghly as a most obnoxious vehicle of poison, because we cannot now evade the conclusion that, where we have excess of cholera, we have an unusual amount of organic impurity in the water used by the persons so affected, —this conclusion being in the present day considered *irresistible*, as a result of all the study and analyses gone into and published of late years in England, on the subject of cholera and its invariable association with organically unwholesome water.

Dr. S. said that the experience of man had gone, generally, to prove that the water of rivers near great towns was always unwhole-

some. It was this that had driven the Romans to bring water from the hills of the Campagna. It was this that had led the citizens of New York to conduct the river Croton from a distance of forty miles, through works which evinced great engineering talent and skill. It was this that had led to the last proposition that had been gravely made in England regarding the water supply of London, viz. that it should be brought from Ullswater—on the borders of Cumberland —two hundred and forty miles distant from the Metropolis. It was this that led Sir Hugh Rose, shortly before he left India, to throw out the suggestion that it might be advisable to supply certain of the larger Military stations of Upper India with water brought down from its clear and uncontaminated sources on the Himalayas.

The same experiences ought, Dr. S thinks, to lead us to reject the notion that Hooghly water can in any sense or with any justice be said to be comparatively pure—when in point of fact it is absolutely impure from a mixture of vegetable decay, common salt from the sea brought up by the tide, and fœcal decomposition resulting from a thousand impurities of which we have direct knowledge.

In conclusion Dr. Smith begged to reiterate his objection to experiments and analyses conducted for the determination of organic impurities of water which had been kept for months or even for weeks.

He believed he was right in saying that such a mode of procedure would not be accepted as a reliable one by any Chemical Society in Great Britain or Europe.

Mr. Blanford said :—"There is a method of deciding the merits of rival and mutually discrepant statements of fact, well known in another arena of discussion, though I believe it is not common in Societies which busy themselves only with Science. It is to assume that the one, usually the more dogmatic statement, is absolutely and necessarily true, and to carry to the discredit of the opposite view, any admission of possible error, which may be made by a philosophical opponent, who considers that the best way to arrive at truth is to treat his own view as critically as that which he rejects. I cannot but think that it is somewhat in this manner, that Dr. Smith has discussed Dr. Waldie's paper. Dr. Macnamara's report being prepared for the information of legislators, who wish for results, and not for a critical discussion of the means pursued to obtain them, is necessarily somewhat dogmatic

in form, and omits a great number of details, which he would no doubt have given, had his paper been prepared, like that of Dr. Waldie, for a scientific body. But it by no means follows that his results can therefore lay claim to greater confidence. I think indeed that, as a general rule, one would rather be inclined to attach most weight to that statement which is made most cautiously, and displays most sense of possible error. And in the particular case under discussion, if I rightly understood some remarks made by Dr. Macnamara, at the close of our last meeting, there is an important part of the evidence adduced in Dr. Macnamara's report, upon which further information is necessary, before we are in a position to form an opinion on the trustworthiness of Mr. Waldie's and Dr. Macnamara's results respectively. Unless I am greatly mistaken, Dr. Macnamara stated, that he could not hold himself responsible for the sampling, but only for the analyses. The statement in Dr. Macnamara's report, quoted by Dr. Smith, must not therefore be taken as expressing more than that, at the time of writing, Dr. Macnamara had no reason to question the accuracy of statements that had been made to him. But now that there is a discrepancy, and a very important one, to be cleared up, before we can pronounce any opinion on the amount of organic matter in the Hooghly water, we should I think be informed whether Dr. Macnamara's specimens were taken from the river, in scrupulously clean bottles, and by a conscientious and careful sampler in the manner stated; or whether, by a bare possibility, some lazy cooly or chaprassee, having received his instructions, may not have found that time and trouble as well as certain pice entrusted to him for boat-hire were saved to him, by taking the water from the edge of the muddy river bank. I do not of course state that such was the case. I merely suggest the point as one on which more evidence is desirable, before any decision can be arrived at.

"Dr. Smith attaches great weight to the fact that 180 tons of night-soil are poured daily into the river, and thinks Mr. Waldie's analyses quite irreconcileable with this fact. I cannot myself see that the facts as stated, would in any way prejudice Mr. Waldie's results, nor would they do so, were the quantity of night-soil ten times as great. The question is one of proportion, and until we know the volume of water discharged by the river, we are quite unable to found any argument

upon the mere quantity of night-soil discharged into it. Even if there be 180 tons a day, 10,000 times that amount of water does not seem an improbably excessive discharge for such a river as the Hooghly.

"I do not see that any other argument of Dr. Smith's is by any means conclusive. There is no *a priori* improbability in the water being bad and not fit for human consumption, even though it contain no more than 1·4 grains of organic matter per gallon. The unhealthiness of the water is *one* question to be decided by evidence, that of the number of grains of organic matter per gallon is quite an independent question, which can best be decided by means similar to those adopted by Dr. Waldie."

Bábu Rájendralála Mitra said that he did not wish to take a part in the discussion as regards the merits of the different analyses of the Hooghly water by Drs. Macnamara and Waldie, but he could not help observing that the line of argument adopted to impeach Dr. Waldie's analyses was not a fair one. The great disparity between the results of the two learned chemists was certainly startling, and suggested the necessity of further enquiry; but that enquiry should be conducted solely and exclusively through carefully conducted rigid analysis, and not by *à priori* arguments which proved nothing. No doubt the sewers of the town discharged a large amount of filth into the river, and there were other sources of contamination equally or more potent; but the river was not a closed vessel, and the law of proportion could not apply to it in any way. Mr. Blanford had very correctly pointed out (the Bábu said) that, notwithstanding the oscillation caused by the tides, the river discharged an enormous volume of water every minute into the sea, and as long as the relation it bore to the total quantity of filth daily thrown into the river was not ascertained, the rule of proportion suggested by Dr. Smith could only serve to mislead. Then a large quantity of filth was being constantly changed by exposure to the atmosphere, and the pure oxygen contained in the water, and its ratio had to be ascertained. Then again the fishes, the molluscs, the crustacea, and the infusoria—the myriad millions of animals—which inhabit the river, live and fatten mainly on the sewerage of the town, and as long as the quantity consumed by them was not ascertained, one most important element in the calculation would remain undetermined. The fact, however, was that rivers were

the great natural drains of a country, and designed expressly to carry away its surplus waters and its sewage to where they became the least offensive, and at the same time, most useful in the economy of nature. The Hooghly in this respect was not worse off than the Thames, the Seine, the Rhine, or the Meuse in other countries. They were the best of sewers, and they served their purpose most effectually. To expect that masonry drains would do it better, is to expect that irrigation from wells would supersede the rains. Their waters were no doubt foul, and they could not be otherwise; but Dr. Smith was evidently misinformed as to the quantity of night soil daily thrown into the river before Calcutta. It could not possibly be 180,000 tons, for that would be equal to forty-eight lakhs of maunds a day, or taking the population of the town at four lakhs, the number ascertained by the last census, it would be twelve times the number or over sixteen times the weight of the whole population. Admitting, however, that there is a large amount of filth in the waters of the Hooghly, resource should be had to chemistry and not to argument, to ascertain its extent.

As to the unwholesomeness of the Hooghly water, Dr. Smith had (the Bábu thought) drawn a rather high coloured picture. The experience of ages had convinced the Hindus that the water of the river for most part of the year was infinitely more wholesome than that of tanks, and they generally incurred heavy expense in bringing river water from a distance for drinking purposes, rather than take the water of tanks from their doors. Had that water been so loaded with the seeds of cholera and dysentery—so potent as an active poison, —as Dr. Smith would make us believe, they would have certainly suffered more severely than they do. The death rate of Calcutta was no doubt high, but it was not higher among the Hindus, most of whom drank the river water, than among the Mahomedans and Christians who eschewed that source of supply. This fact was the other day most pointedly illustrated at the Small Pox Hospital at Chitpur, where Dr. Chuckerbutty found that his Hindu patients who obtained their water from the foulest part of the river opposite Chitpur, suffered less from diarrhœa and dysentery than his Mahomedan patients for whom he obtained water from a tank called Bábu's Tank, the best in the neighbourhood. These were facts which could not be set aside by allusion to the prevalence of cholera among sailors, for Jack

ashore was exposed to many sources of disease a great deal more powerful than the waters of the Hooghly.

Mr. Waldie gave explanations and replies to the several speakers, of which the following were the principal;—

The principal difference between stagnant and running waters was, that in the former the fermentative or putrefactive process tended to be the prominent one, and yielded products which exercised a deoxydating influence, and therefore required a greater quantity of oxygen when tested by the permanganate. In running streams again the process was more of an oxydating one, from the much larger amount of surface exposed to the air.

But the question at issue was, the amount of organic matter by weight. He did not consider that the delay in examining some of his samples could materially affect the correctness of his results, except possibly in the case of the December and February waters, which had stood over three or four months; though even in these, judging from observations he had made, there was not probably any great error. But he would put these aside, as the point in question had reference to the water of the hot season and of the rains. The formation of vegetable growth in the bottles was very striking, and illustrative of the excess of organic matter, in the earlier part of the rains more particularly, which very decidedly exceeded that in the water of the end of the hot season. There was no great delay in examining the hot-season water: that of 14th June, at the very end of the hot season, was examined only nine days after collection, and gave only $1\frac{4}{5}$ grains organic matter per gallon, being the largest amount found in the water of the hot-season. The water of the rainy season stood about a month in the earlier samples, waiting till it settled, as the presence of the finely divided clay, which could not be separated by filtration, was a great difficulty in the way of estimating the organic matter, and though this could be removed easily, the processes required made the subsequent determination of organic matter of doubtful accuracy.

He would not enter into the conclusions drawn from medical statistics. His business at present was simply to state his results, and leave it to the medical men to drawn conclusions from them. His object was to supply correct data.

Mr. W. further remarked that in this evening's paper, he had subjected his own results to a very rigid scrutiny: he had given dates, while he knew nothing of the time at which other analyses were made, except that probably they were made "as soon as possible," not a very definite expression. But he intended to prosecute the subject, and should be quite ready to correct anything in his past result, which further investigation failed to confirm.

Mr. W. T. Blanford exhibited a large series of worked agates, of the early-stone period, from Central India, and offered the following remarks.

"The specimens of agate implements now exhibited were collected by the late Lieutenant Swiney, in the neighbourhood of Jubbulpoor, and we are indebted to Mr. H. Rivett-Carnac for the very fine and interesting series before us. Two specimens from the same collection were exhibited at the meeting of this Society in April 1865, and a note upon them, by Lieutenant Swiney, was read at the same time. (Proc. As. Soc. Bengal for 1865, p. 77.)

"Mr. Rivett-Carnac has now very kindly given us an opportunity of examining the bulk of the collection, and of figuring some of the specimens. They belong to two classes, one of which exactly represents the flakes so frequently found associated with human remains of great antiquity in Europe: the other is, I believe, comparatively rare, although specimens have been found, especially in the Kjokkenmöddings of Denmark, and at the April meeting of last year, my brother pointed out the resemblance of the first two specimens received from Central India to some of these *cores*, as they have been termed.

"The flakes are, for the most part, similar in form to those found in Europe. Some are pointed, others blunted at the end, and it is probable that the former may have been designed for piercing, the latter for cutting. Besides the lengthened oblong flakes, there are others of much broader form, but judging from the relative proportions in the present collection, they must have been much rarer. (Pl. III., figs. 1, 2, 3.)

"The cores are by far the most interesting portion of the collection. They are of two principal forms, subconical and subprismatic. Irregular blocks, from which flakes have been split, also occur in considerable numbers. They may always be identified by having a num-

ber of faces nearly plane or slightly concave, of considerable length in comparison to their breadth, and in general parallel to the longer axis of the block.

"The subprismatic cores (Pl. II., figs. 1-4, Pl. III., figs. 11, 12) approach most nearly to those represented in European works. (Compare Lubbock's Prehistoric Times, Pl. X., fig. 6, and fig. 61, p. 65.) Many of the Jubbulpoor specimens, however, are far neater, a circumstance perhaps due to the greater homogeneity of the material. The subconical forms (Pl. II., figs. 5-12, Pl. III., figs. 8, 9) are, however, the most curious. I have seen no figures of similarly shaped cores from Europe. Many of the present specimens are so beautifully shaped, and the facets forming them are so regular and equal, that it is difficult to avoid the impression that these little cones were the objects desired by the manufacturer, and that the chips were merely accidental. Both Lieutenant Swiney and Mr. Rivett-Carnac adopted this view, looking upon the prismatic and conical forms as arrow heads or lance heads respectively; and Mr. Rivett-Carnac ingeniously suggested, in a paper published in the Nagpoor Journal, that the imperfect notches seen on many of the specimens were intended to be fitted into a hollow bamboo or reed, that the locality at Jubbulpoor was a great manufactory, and that the specimens we now find are the failures, not the finished weapons. To this opinion it may be objected; 1st, that some of the specimens found (*e. g.* Pl. II., fig. 1, and Pl. III., fig. 4) do not appear at all to be shaped into any form available for a weapon; 2nd, that every gradation is found, from the most perfect cones to rough blocks, from which two or three flakes only have been split, and 3rd, especially, that the form of the most finished specimens we have (*e. g.* Pl. III., fig. 9) is totally unfitted for a weapon intended to pierce, the angles formed by its sides at the point being too obtuse, and its transverse section being nearly circular, whilst that of all lance heads, and of most arrow heads, even amongst the rudest and least intellectual of races, is more or less elliptical, with the ends of the major axis sharp. With respect to the notches, I am convinced that they are accidental; in an attempt which I made to imitate some of these cores, (in which I may add, to the credit of the stone people, that, with all the advantages derived from the possession of an iron hammer, I failed egregiously,) I found that the notches were far more easily produced than avoided.

"I am but ill-acquainted with the remarkable accumulation of discoveries with respect to the prehistoric flint weapons of Europe, but I cannot help thinking that had any specimens, of equal neatness and beauty to these, occurred in the caves and shell mounds of France and Denmark, illustrations of them would be more numerous in the works relating to the subject. One other remarkable character in which the Central India cores differ from those figured from Europe, is in their extremely small size. Many of the most neatly shaped specimens are less than an inch in length, some less than $\frac{3}{4}$ inch. It is difficult to understand how they can have been fashioned, and to what purpose the little flakes obtained from them have been applied. Possibly the latter were used as needles, or they may have been largely employed to tip small darts used for killing birds and small mammals, or, very probably, fish. Fish are still frequently shot by arrows in parts of India and Burmah, and I have myself seen men engaged in this mode of capture in both countries.

"The material of which all these implements are formed is agate or jasper, derived from the trap formation so extensively developed in Central and Western India. It is a beautifully homogeneous stone; very hard, and the edges of flakes split from it are extremely sharp. It is similar in mineral character and composition to the flint used by the early races of Western Europe, and is of equally good quality.

"With respect to by far the most interesting questions affecting these chipped implements, viz. their mode of occurrence and their geological antiquity, we have, unfortunately, very little information. Lieutenant Swiney's account of his discovery of the specimens in the neighbourhood of Jubbulpoor has been published in the Proceedings of the Society for April, 1865. I have myself, during the past year, found one very beautiful specimen of the long subprismatic form of core (Pl. III., fig. 12) close to the village of Singara, about 15 miles north of the station of Chindwara, in the Central Provinces; and I also met with 4 or 5 fragments of agate and jasper, from which flakes had evidently been chipped, on the banks of the smaller Sawa river, about 20 miles E. N. E. of the station of Kundwa in Nimar. The last locality is in a wild, almost uninhabited jungle. In both instances the cores were lying at the surface of the ground.

"It is probable that the area indicated, viz. the valley of the Nerbudda and its neighbourhood, for a distance from east to west of about 200

miles, is but a small portion of the tract over which these chipped agates will ultimately be met with. Cores of the prismatic form, chipped from chert, have been found in Sind, and specimens are preserved in the collection of the Bombay Branch of the Royal Asiatic Society.

"The question of the geological age of these implements becomes of great importance, when we consider the neighbourhood of the locality in which they occur, to the most important later tertiary deposit containing remains of mammalia, which has yet been explored in India,—the Pliocene gravels of the Nerbudda. It is to be hoped that it may be possible to trace the connection of the bone-bearing beds with those containing the implements. In connection with this question, the discovery of a flake by Mr. Wynne of the Geological Survey *in situ*, in the gravels of the Upper Godavery, already mentioned to the Society by Dr. Oldham, (see Proceedings for December, 1865, p. 207,) is of remarkable interest. A note of the discovery has also been published by Mr. Wynne in the Geological Magazine. I was myself at first very sceptical as to the genuineness of this flake, but a recent re-examination, and comparison of it with some of the Jubbulpoor specimens, have strongly inclined me to believe that it is really of human manufacture. It is precisely similar in form to one Jubbulpoor flake (Pl IV., fig. 11), differing only in its larger size.

"It should never be forgotten that the question of the antiquity of man in India has a peculiar interest. Both tradition and scientific induction point to the tropics and especially to tropical Asia as the cradle of the human race. If this occurrence of implements of human manufacture in the Godavery gravels be confirmed, and especially if similar implements be found in the Nerbudda beds, they will prove man in India to have been contemporaneous with a fauna differing far more widely from that existing at the present day, than did the old cave fauna from that of modern Europe.

"Another point of interest is, the relative antiquity of the agate cores and flakes of the Nerbudda to the quartzite axes, scrapers and sling stones of Madras. Judging from the European equivalents, the Madras specimens should be the older: they exactly resemble the implements of the Amiens and Sussex gravels, whilst the counterparts of the Jubbulpoor flakes are to be found in the cave shelters of Dordogne, the shell mounds of Denmark, and the tumuli and barrows of England.

But it should not be forgotten that while both types of implements in Western Europe are formed of the same stone, viz. flint, those of Madras and Central India are of very dissimilar composition, and the agates of the latter country are rarely found in blocks sufficiently large to form the weapons of Madras, while the quartzites of Southern India would not afford the sharp edges and fine points, for which the jaspers and agates of the Nerbudda are eminently suited. In both localities the best use appears to have been made of the materials at hand, and the two forms of weapons may, so far as our present knowledge extends, have been contemporaneous, or either may have preceded the other.

"In conclusion, I wish to point out how greatly we are indebted to Mr. Rivett-Carnac for the loan of these most curious and interesting specimens of ancient human art."

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR NOVEMBER, 1866.

The last meeting of the Asiatic Society of Bengal was held on Wednesday, the 7th instant, at 9 P. M.

W. S. ATKINSON, Esq., in the Chair.

The proceedings of the previous meeting were read and confirmed.

Presentations were announced :—

1. From Lieutenant R. A. Cole, a copy of a "Manual of Mahomedan Civil Law" in Canarese.

2. From Rev A. B Spry, a case of bird skins from Malacca.

3. From Dr. C. MacClelland, a case of Upper Cretaceous fossils from Cherra Punji.

4. From Captain T. H Lewin, through Mr Grote, specimens of clothes worn by the Hill tribes of Chittagong.

5. From Sir D. Macleod, through H. H. Locke, Esq., a bust of General Forbes.

The following letter accompanied the donation :—

To the Honorary Secretary to the Asiatic Society of Bengal.

DEAR SIR,—I am directed by Colonel Ballard to forward to you the accompanying bust of General Forbes, as a presentation from Sir Donald MacLeod, Lieutenant-Governor of the Punjab. The bust is a duplicate which has been executed in this school, from the very fine marble, by Foley, in H. M. Mint, Calcutta.

Yours faithfully,

H. H. LOCKE,

Principal, Govt. School of Art.

Calcutta, November 7, 1866.

On the proposition of the Chairman, a special vote of thanks to Sir D. MacLeod was given by the meeting.

Kumar Harendra Krishna Bahadoor, proposed at the last meeting, was balloted for and elected an ordinary member.

The following gentleman was nominated for ballot at the next meeting :—

J. M. Ross, Esq.

Proposed by Dr. J. Anderson, and seconded by Mr. H. F. Blanford.

Mr. S. Jennings' desire to withdraw his name from the Society was recorded.

Read the following letter from W. H. Johnson, Esq., on the existence of Hindu Tartars on the banks of the River Indus :—

To the Secretary, Asiatic Society of Bengal, Calcutta.

Dear Sir,—I have the pleasure to request the favor of your kindly bringing to the notice of the Society the fact of the existence of Hindoo Tartars on the Indus river, and of their occupying several villages, the largest of which is Dah, between Dras and Iskardo. These people differ much in their manners, customs and religion from the Bhots of Ladak and the Baltis of Iskardo. They consider themselves to be pure Hindoos, being so devout and paying such veneration to the cow, as to refrain from touching that animal and from consuming its milk, &c. I believe these men are of a distinct race, traces of which are not to be found in any other part of the Maharajah's territories. No doubt great advantages and useful information may be derived by enquiring into the language, manners and religion of these people; and it is for this purpose I have brought the subject to the notice of the Asiatic Society.

I remain, yours faithfully,

W. H. Johnson,

F. R. G. S.

Dehra Dhoon, 28*th October*, 1866.

The receipt of the following communications was announced :—

1. From J. Beames, Esq., C. S.—

"Outlines of Indian Philology."

2. From Baboo Gopee Nath Sen—

"An abstract of hourly Meteorological Observations made at the Surveyor General's Office in July last."

3. From Bábu Rájendralála Mitra—

"Notes on Gupta Inscriptions from Aphsar and Behar."

4. From C. Horne, Esq., C. S.—

"Notes on Mynpuri village and on some carvings on the Buddhist rail-posts at Boodh Gya."

5. From the Secretary to the Government of Bengal in the Public Works Department—

"A Report on the Earthquake of the 23rd May last."

6. From V. Ball, Esq.—

"Notes on the principal Jungle fruits used as articles of food, by the natives of the districts of Maunbhoom and Hazareebagh."

At the request of the Chairman, Mr. Ball read his paper, of which the following is an abstract:—

The author remarked that during the present season of famine many of the Jungle tribes of Maunbhoom and Hazareebagh subsisted entirely on the produce of wild jungle plants. He had collected information respecting the plants so used, and in the paper which he now read to the meeting he enumerated the fruits, &c., with some details respecting their preparation as food. The following is the list, given approximately in the order of their relative importance —

Botanical Name.		*Native Name.*	*Parts eaten.*
Bassia latifolia.		Mahowa.	corolla and fruit.
Shorea robusta.	Roxb.	Sàl.	seeds.
Moringa pterygospermum.	Gartn.	Sujna.	leaves.
Euxolus viridis.	*Linn.* sp.	Bàtwà.	do.
Amaranthus spinosus.		Kàntà.	do.
Ficus Indica.	Roxb.	Bur.	fruit.
F. religiosa.	Linn.	Pipal.	do.
F. venosa.	Ait.	Pakoor.	do.
F. racemosa.	Linn.	Gooler.	do.
Zizyphus jujuba.	Lam.	Bier.	do.
Buchanania latifolia.	Roxb.	Pial.	fruit and seed.
Diospyros melanoxylon.	Roxb.	Kaned or Keond.	fruit.
Carissa carandus.	Linn.	Kuromcha.	berries.
Bauhinia Vahlii.	W. L. A.	Chehoor.	seeds.
Syzygium Jambolana.	Decandolle.	Jamoon.	fruit.

Phyllanthus emblica.		Amlá.	fruit.
Terminalia catappa.	Linn.	Badam.	seeds.
Cassia fistula.	Linn.	Amultas.	placentæ of pods.
Trapa bispinosa.	Roxb.	Singhara.	seeds.
T. quadrispinosa.		Do.	do.

In addition to the above, a number of roots are used, but the author has not at present sufficient materials to give a list of them.

Mr. W. T. Blanford said, with reference to Mr. Ball's paper, that those who had not habitually lived among the jungle tribes of India, could have but little idea how largely they depended on the natural yield of the forest for their sustenance. The subject was one of especial interest in connexion with the probable habits of the ancient men of Pre-historic times, whose relics were now exciting so much deserved interest in this Society and elsewhere.

The following notes received from Mr. Horne were read.

1. To what is due the exemption some men have from the attacks of bees and wasps?

One reads of it in England, and here is another illustration.

"Yesterday we arrived at our camp at Soj, and needing the elephant to go on again very soon, I directed the Mohaut to feed him well, and have him ready in three hours.

"Instead of this, he chained the said elephant under a large peepul tree, leaving him to pull down the boughs and browse on them.

"He did this for some time, when presently he seized a large branch and swaying to and fro, applied his vast strength to pull it down.

"He succeeded; but the crash caused the whole tree to shake, when suddenly there was a cry in the camp, 'The bees! The bees!' and every one was seen running away, beating off the said bees, which descended from the peepul tree, where they had been disturbed by the shaking, and attacked every living thing within 70 or 80 yards.

"A dog even, passing below the tree, did not escape, and was sorely

bullied by the insects. He shook his head, struck with his paws and rolled in vain.

"One man defended himself vigorously with the table cloth which he was taking away, leaving however his pugree on the field. Two men hid under some tent covering, and it was strange to see the pertinacious way in which for more than an hour ten or twelve bees flew round at them, occasionally getting under, so that one of the men was much stung.

"But it was stranger still to see one of the men Chida (gardener). He lay sleeping with only a waist cloth on and nearly all his body exposed, under the very tree; yet no bee touched him! This man takes a bee's or wasp's nest, brushes off the bees or wasps with his hand; none sting him. He could on this occasion have made no preparation. *Why is it?*

"The bees after about two hours retired to their tree, and the camp was reinhabited.

"*October 20th*, 1866."

2.- Firefies and sympathetic light.

"On the 8th September, 1866, as I was returning from my autumn assizes at Etawah, I was detained for an hour at Boojeea Ganges canal chokie, about eleven miles from Mynpoory; and sat outside by the canal and watched the fireflies.

"It had just fallen dark, and they were flying around the trees on the canal bank in very great numbers. But what struck me was their simultaneously flashing their light. Suddenly a whole tree was a blaze of light. After a second or two all was dark. Then again the light flashed forth simultaneously.

"I have never before observed this. I have often seen a long stream of sustained light as well as the ordinary intermittent effulgence, but this was so beautiful a sight that I shall not quickly forget it.

"I cannot say how far the simultaneousness extended. It certainly extended to several large trees and their surroundings, although all along the canal bank there were myriads of fireflies, whose giving forth of light I did not observe."

A note by Mr. W. Theobald, Junior, on the supposed occurrence of *Nesokia Indica* in Burmah, was read.

"In Blyth's excellent "Memoir of the rats and mice of India,"

the author remarks of *Nesokia Indica*, that he has "not seen it from the eastward of the Bay of Bengal, though it is likely enough to occur in the dry climate of the region of the Upper Irawadi."

"In confirmation of this supposition, I now record the occurrence of *N. Indica*, at Tounghoo on the Sittang, and the very first specimen I procured exceeded any measurement recorded by either Blyth, Gray, or Elliot in the above memoir. Elliot gives the dimensions of an old male.

Body, ... 7.00
Tail, ... 6.50 } =13.50

"On which Blyth remarks: According to my observation, the tail has not exceeded 5½ inches from any part of the country."

"In contrast to the above statement stand the measurements of an old male and female *Nesokia* from Tounghoo, taken carefully from the fresh animals.

Male,.....Body, ... 9.75
Tail, ... 7.25 } =17.00

Female,...Body, ... 8.50
Tail. . ..... 6.00 } =14.50

"Colour dark brown above, hardly paler below.

"It will of course from these measurements be surmised that the specimens are young Bandicoots, but though I have no series to compare them with, I cannot but think they are unusually large *Nesokias*. They display the "bluff arvicoline or vole like aspect" and have toes 4-5 and sixteen mammæ.

"The following description of *Mus robustulus*, Blyth, from Tounghoo, may help to exhibit the variations of size and colour to which the species of this difficult group are subject.

"*Mus robustulus*, Blyth.

"Colour dark grey ("grizzled grey," Blyth,) above, scarcely tinged with rusty [?] and with many black hairs mixed. Feet and belly white. Fur rather coarse and hispid, but close; especially below. Tail thinly clad. Mammæ twelve.

Male,.....Body, ... 7.10
Tail,..... 7.10=14.20

"A common house rat breeding in the roofs and not burrowing."

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR DECEMBER, 1866.

A monthly general meeting of the Asiatic Society of Bengal was held on Wednesday the 5th Instant at 9 P. M.

The Honorable J B. Phear, in the chair.

The proceedings of the previous meeting were read and confirmed.

The following presentations from W. H. Johnson, Esq., were announced ;*—

Old brick Tea from ruins near Ilchi.

Tea found in dry bed of salt lake near Karakas.

" " near Karakoram pass.

" " at Kiam hot-springs in Changchemno.

" " ditto ditto.

" " at Dooar in Khotan.

" " at Kiam hot-springs.

" " near Dooai in Khotan.

" " " ditto ditto.

" Grasses from Khotan.

Five Images found in large plain north of the Changchemno (Tartar).

One pair of (woman's) Boots from Khotan.

One woman's cap ditto

One box ditto

One carpet ditto

One praying wheel (Tartar).

One Tea-pot from Khotan, engraving done there by women.

J. M. Ross, Esq., duly proposed, at the November meeting, was balloted for and elected an ordinary member.

* See Proc. for August. *Ante*, pp. 182-5.

Messrs. W. T. Dodsworth and A. Money's desire to withdraw from the Society was recorded.

The following gentlemen were named as candidates for ballot at the next meeting.

Lieutenant W. J. Williamson, Assistant Commissioner, Garrow Hills, proposed by Dr. J. Anderson, seconded by Baboo Rájendralála Mitra.

G. A. Anley, Esq., Engineer to the Municipal Commissioners, proposed by Dr. J. Ewart, seconded by Dr. J. Anderson.

Dr. J. Anderson read the following two letters from Dr. Ross and Mr. Abbey.

Cape Comorin, Travancore, 6th October, 1866.

My dear Fayrer,—I have undertaken, at the desire of the British Resident, to collect information regarding the Ethnology of this country and of Cochin, and to illustrate it by photographs of typical examples of the people, public and religious buildings, and monuments, private dwellings, arms, musical instruments, &c. Of the typical people, I purpose taking of men and women, one full length photograph, and two of the bust, one being full face and the other profile—and one photograph of the top of the head. Of course photos. of all the agricultural instruments will also be taken, and a few of the country, in order to give an idea of its general outline, as well as some idea of the way in which it may have modified race distinctions.

The account of the Ethnological condition of the two countries will include a full account of the religious and superstitious beliefs and practices, of the moral condition, the employments, and amusements, the physical conformation, (with accurate measurements,) the language, history, and traditions of each race.

A set of the photographs will be presented at the expense of the Travancore and Cochin Sircars (or rather at mine, as they are only to pay for the actual chemicals used,) to the Ethnological branch of the Royal Asiatic Society, together with my account of the Ethnology. As I shall have to take some 300 or 400 *negatives*, fully to illustrate the subject, and to collect all the information procurable, I have, as you may imagine, my work pretty well cut out for me. As I am going to so much trouble and expense, I would like the thing to be as complete as possible—and I would therefore be much obliged for any

hints which you could give me in order to render it so; as I know you are both interested in the subject and competent to give the best advice regarding it.

We have many most interesting tribes in these two small states:—the white and black Jews of Cochin, the bigoted and exclusive Namboori Brahmins, who lord it over the Tamil and Conkany Brahmins, the Syrian Christians, the Chhetrya rulers of Cochin, the Choans, the soil slaves, the Pulliars, the Wadi, and the jungle tribes regarding whom little or nothing is yet known, (including the winter tribe—lithe of limb and quick of eye—with a scent like that of hound;) the lordly Nair and many other interesting tribes "too numerous to mention here." Should you think information on any special point particularly valuable, I will take care that it shall be complete.

* * * * *

Believe me

Your's very sincerely,

ÆNEAS MACLEOD ROSS,

Residency Surgeon.

Mergui, B. Burmah, November 16th 1865.

DEAR SIR,—I have received a printed report of Proceedings of the Madras Government, together with a circular to Zillah Surgeons, requesting information as to the Ethnological characteristics of their respective districts.

The district of Mergui, situated at the southern extremity of B. Burmah, has a singularly wild population, affording specimens of most or all of the many varieties of the Peninsula; natives of Northern and Southern China, and probably also of the East Indian Islands.

Peculiar to the Mergui Archipelago are the "Selungs," a curious people, very distinct in appearance, habits and surroundings from the inhabitants of the main land.

You will probably agree with me in thinking that any such report as that called for would be immensely increased in value by a well selected series of photographs, which might very possibly prove to be the only really valuable part of the communication.

I have ventured to address myself to you on this matter, as being the promoter of the forthcoming Ethnological Congress. If you

think it would be worth while to have these photographic illustrations, Government might perhaps be induced to forward the matter.

I am Dear Sir,

Your's faithfully,

Walter Abbey.

The Hon'ble Justice Campbell made a few remarks on the above letters.

The receipt of the following communications were announced—

1. From C. Horne, Esq., Notes on the village of Manaira.

2. From W. T. Blanford, Esq., F. G. S. Contributions to Indian Malacology, No. VIII.

3. From Baboo Gopinath Sen, an abstract of hourly Meteorological Observations taken at the Surveyor General's Office in August last.

4. From Captain H. A. Browne, Notes on the Pegu Pagoda.

The Secretary read extracts from Captain Brown's paper. It appears from the paper that every ancient Pagoda in Burmah has its "*Thamaing*" or "Sacred Chronicle," giving its history from its foundation to a recent time. The commencement of these chronicles is of a more or less mythical character, the founding of each particular Pagoda being connected, if possible, by its historian, with some event in the life of Gaudama. But later on they are truthful contributions to the history of the period. According to one of these chronicles, (of which the paper is an abstract translation) the *Shwe Hmawdow*, or the great Pagoda of Pegu, was erected by two pilgrims named Mahathala and Tsoolathala, in the year 572 B. C., and was intended to enshrine two hairs of Buddha which he had given them for the purpose. The Pagoda seems, however, to have soon after fallen into neglect, and its first authentic history begins with the foundation of the town of Pegu in the year 1116 by Thamala, a Talaing prince who named it *Hanthawadie*. He made it the capital of his kingdom, and greatly improved and endowed the Pagoda, and thirty-five princes of his race successively reigned after him and added largely to the height and importance of the shrine. From the Talaings, Pegu passed into the hands of the king of Pagan in 1354, who held it but for a few years, and made it over to a Martaban prince named Worooree in 1357. The descendants

of the last reigned for a little more than two hundred years, and yielded the kingdom to a new dynasty which supplied successively four kings from 1568 to 1636. In 1737 Pegu became an appanage of the kings of Ava.

The Chairman said it was now his duty to invite discussion upon the paper, which had just been read by the Secretary. He was sorry to be obliged to confess, that under the obscurity of long words, and local names entirely unintelligible to him, he had not been able very clearly to comprehend the purport of Captain Browne's communication. The heading of the paper had led him to expect a discussion of architectural and antiquarian researches, and judging from the impression produced on his mind two years ago by the sight of the magnificent pagodas at Rangoon, he imagined that an investigation of their origin and of their structural peculiarities would afford a subject well worthy of the attention of this Society. If he was not misinformed, these pagodas were all solid masses of masonry, resembling in this respect the pyramids of Egypt, with perhaps (like them also) a small chamber in the centre. It would be interesting to inquire, whether the Burmese pagoda was an advanced form of the pyramid, in which graceful curved outlines, and mouldings had taken the place of the hexagon and its plane faces: and if so, to trace out the circumstances of the development. But as far as he understood the present paper, it did not touch on this topic at all: it was rather an abstract of old chronicles, and as such, was probably a valuable contribution to the archaic or mythological history of Burmah. He hoped that some of the members of the Society then present were prepared to do justice to its merits.

Mr. Waldie rose to mention a subject on which he wished for information, in connection with the investigations on the Hoogly water in which he is at present engaged, in the hope that some members of the Society might be able to assist him to it. And he would take the opportunity to observe, in relation to his late communications on that subject, that he did not coincide with all the views and conclusions that had been drawn from the results given in his papers; and though in due time he would probably have more decided opinions, as matters stood at present, he considered that his results rather were to be taken

as having broken up received opinions on the subject than as having established new ones.

His enquiry at present was directed towards ascertaining the dimensions of the channel of the river,—its breadth and depth, and therefrom its area, and also the velocity of the current and quantity of water passing in a given time. He referred to the source of the river in the effluents from the main stream of the Ganges, and the impediments to the supply of water from the main stream by the bars formed there, the Hoogly having been compared by some to an arm of the sea rather than a river during the hot season, in which the water oscillated backwards and forwards under the influence of the tides. He should be glad if any member could put him in the way of getting some definite information on the subject, as some attempts he had made to obtain this, had not been attended with success.

Several members expressed an opinion that the information could be obtained, and promised to assist Dr. Waldie in his researches.

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR JANUARY, 1867.

The Annual General meeting of the Asiatic Society of Bengal was held on Wednesday the 16th January, 1867.

E. C. Bayley, Esq., President, in the chair.

The Secretary read the Council's Report.

ANNUAL REPORT.

In accordance with the custom of this Society the Council submit their annual report on the present condition of the Society and on the progress of its labours during the past year. With the single exception of Finance, which, owing to temporary causes presently to be explained, is in a less favourable condition than it has been for some years past, the Council believe that in every respect the state of the Society is most satisfactory. The Member-roll, which showed a slight diminution last year, now re-exhibits a marked increase, the loss of ordinary members by resignation and death being 24 only, while 39 new members have joined the Society. It now counts 391 members against 376 at the close of the last year, and has received therefore a net increase of 15 members. The comparative lists of paying and absent members, shew a still more marked improvement. Last year, there was a decrease of the former by not less than 21, but in the year just concluded, this deficiency has been more than made up, and 38 paying members have been added to the roll. The total number is now 305, of whom 146 are residents. The following table shews the number of members for each of the past ten years.

	Paying	Absent	Total
1857	109	38	147
1858	193	40	233
1859	135	45	180
1860	195	47	242
1861	225	55	281
1862	229	82	311
1863	276	79	355
1864	288	92	380
1865	267	109	376
1866	305	86	391

The losses by death (5 in all) include an unusual number of members whose labours have rendered them well known to the world at large or in the body of our Society. Foremost among them, we have to deplore the sudden and untimely death of the late Bishop of Calcutta, a man whose pre-eminent worth and rare liberality of spirit have made his decease felt as a public loss, not alone by the clergy whom he ruled and by the members of the church he so nobly represented, but by those of every creed, whose object, like his, is the common welfare of men.

Dr. Roer was connected with the Society for very many years, as an associate from 1839 to 1852, and as an ordinary member from 1853 to the time of his decease. In 1841 he was placed in charge of the Society's Library, and in 1847 was appointed Editor of the Bibliotheca Indica and Secretary to the Philological Committee. In these different capacities, he took an active part in the affairs of the Society and rendered it most valuable service. In him the Society has to deplore the loss of an oriental scholar of high attainments, and a frequent contributor to its Journal and the Bibliotheca Indica.

Mr. Joseph G. Medlicott is another member, whose loss is deeply regretted by very many of our body. In his public capacity, he was well known as one of the earliest and most energetic members of the Geological Survey of India, on the staff of which he worked for upwards of ten years, and contributed in no small degree to the development of that orderly knowledge of Indian geology which we now possess, and which we owe almost entirely to the steady labours of the officers of the Survey. Arriving in India in 1851, already an

experienced geologist, he was engaged, during the ten years of his connection with the survey, in the Khasia hills, in the Rajmahal hills, and other parts of Bengal and Central India; but his chief and best known publication is that on the geology of the Pachmari hills and the upper vallies of the Soane and Nurbudda, much of which country he surveyed under the peculiar difficulty of having to form his own topographical map *pari passu* with the survey of the geological details. In 1861, when, owing to the outbreak of the civil war in America, the cotton production of India suddenly became an object of the highest importance to the manufacturers of Europe, Mr. Medlicott was commissioned by Government to draw up a handbook on the cotton production of Bengal, a work which gained for him a high reputation among those best able to appreciate its value. In 1862 he joined the Educational Department of Bengal, and up to the time of his decease in May of the past year, he continued to discharge the responsible duties of his post, earning by the liberality and catholicity of his views, not less than by the geniality of his spirit, the respect and confidence of all with whom he had to deal. His minor writings were numerous; chiefly contributions to the Calcutta Review and other periodicals. One of these, his review of Mr. Darwin's well known work on the origin of species, may be mentioned as having been noticed by the eminent author of the original work, as the most appreciative of all the numerous reviews that that remarkable book had drawn forth.

Mr. Oldham was for some years a member of the Society's Council, and especially took an active part in the meteorological discussion of two or three years since. His devotion to this science ceased only with his death, which occurred shortly after his arrival in England, whither he had proceeded in March last.

Two corresponding members have been elected during the past year, viz., Professor Emil von Schlagintweit, well known by his valuable work on Thibetan Buddhism, and the Rev. M. A. Sherring, to whom, in connection with Mr. Horne, the Society is indebted for several valuable contributions to the Journal on the subject of the Buddhist antiquities of Benares.

MUSEUM.

In May last, the long contemplated transfer of the Society's collections to Government concluded the negotiations which have been pending since 1857, and the progressive steps of which have been from time to time reported to the Society. Before making the transfer, the Society had incurred a very large expenditure upon the Museum, in order that it might pass from their hands in a condition worthy of the many eminent men by whose exertions it had been formed. To Dr. J. Anderson, as a member of their own body, the Society are indebted for superintending the restoration and re-arrangement which the long absence of any qualified curator had rendered necessary, and they believe that all qualified to judge will pronounce the Museum in its present condition to be one of which the Society may be proud. The collections will remain in the Society's house until the completion of the new Museum Building. This, it is expected, will be ready to receive them within about three years from the present time.

The Museum is now in charge of the thirteen trustees appointed under the Act (XVI. of 1866,) four of whom, viz. Dr. Partridge, Dr. Fayrer, Mr. Atkinson, and Mr. H. F. Blanford, are nominated by the Council of the Society.

FINANCE.

The heavy outlay on the Museum during the past year, following closely upon that incurred for the restoration of the building, and accompanied by a large increase in the publications of the Society, has temporarily reduced the finances of the Society to an unusually low ebb. On the other hand, unrealized assets, consisting of sums due by members and subscribers to the Journal have increased greatly. Indeed the Council cannot but think that these arrears would have been very much greater than they are, had it not been for the active exertions of the Honorary Treasurer of the Society, who has succeeded by dint of untiring exertions in realizing a considerable portion of the debts outstanding at the end of the last year. Owing to these causes, the Council have had to dispose of not less than 3000 Rs. worth of Government Securities in excess of the sale provided for in the Budget of the last year; as is shewn in the following table of the income and expenditure, as estimated at the beginning of the last year, and as actually received or expended.

INCOME.

	Estimate.	Actual.	Deficit.	Excess.
Admission fees, ...	1,000 0 0	1,280 0 0	...	280 0 0
Subscriptions, ...	8,500 0 0	8,676 0 0	...	176 0 0
Journal, ...	600 0 0	1,327 0 0	...	727 0 0
Library, ...	200 0 0	620 0 0	...	420 0 0
Museum, ...	6,000 0 0	2,589 0 0	3,411.	...
Secretary's Office,	20 0 0	22 0 0	...	2 0 0
Coin Fund, ...	100 0 0	5 0 0	95.	...
	25,420 0 0	14,919 0 0	3,506.	1,605 0 0
Sale of Govt. Sects.	1,500 0 0	4,500 0 0	...	3,000 0 0
			3,506.	4,605 0 0

Excess,... Rs. 1,099 0 0

EXPENDITURE.

	Estimate.	Actual.	Saving.	Excess.
Journal, ...	4,400 0 0	2,799 0 0	Rs. 1,601.	
Library, ...	2,000 0 0	5,258 0 0	...	3,258 0 0
Museum,.....	6,000 0 0	6,272 0 0	...	272 0 0
Secretary's Office,	2,350 0 0	1,784 0 0	„ 566.	
Building, ...	2,500 0 0	2,634 0 0	...	134 0 0
Coin Fund,.....	320 0 0	503 0 0	...	183 0 0
Miscellaneous, ...	350 0 0	362 0 0	...	12 0 0
	17,920 0 0	19,612 0 0	„ 2,167.	3,859 0 0

Expenditure Excess, ... Rs. 1,692 0 0
Income ditto,..... „ 1,099 0 0

Difference. „ 593 0 0

From this it will be seen that the sale of Rs 3,000 of securities beyond what had been anticipated has been necessitated, chiefly by the heavy expenditure on the Museum within the first five months of the

year, in which period it exceeded the sum estimated for the entire year, while the income, estimated for the entire year, was actually received for 5 months only. The expenditure on the Library has also been considerably in excess of the estimate. But omitting the single item of the museum, the income has also exceeded the estimate by 1,530.

Were the museum expenditure in excess of the receipts for the same item omitted, the sale of the additional Rs. 3,000 of securities would not have been necessary, and there would have been a small surplus of Rs. 683.

This account of the financial condition of the Society would, however, be very imperfect, were the liabilities not also taken into consideration. There are still very heavy (Rs. 7,500) but not greater than the Society can meet without difficulty, if they can succeed in realizing any considerable portion of the very large amount (Rs. 8,100) due by members and subscribers to the Society. The Treasurer has made repeated endeavours to obtain these arrears, and with partial success, but some of the heaviest defaulters have, the Council regret to say, shewn a lamentable disregard of the treasurer's applications, and the Council feel with regret that it may be necessary shortly to adopt very stringent measures towards some of the heaviest defaulters. The Council propose therefore to register the Society under the provisions of Act XXI of 1860, which will enable them to sue those who are insensible to less coercive forms of application; and at the same time to enforce Rule 11, which provides that the defaulter's name be removed from the Society, and full publicity given to his removal.

The Council have further taken steps to re-organize the financial system, to check expenditure to the utmost, and to place the entire control thereof under the Financial Committee, and they feel confident that, with economy and careful management, the Society's Finances will be restored to their former prosperity long before the time when the removal of the Society to the New Museum Building will put the Society in possession of a largely increased income, by the leasing of its present premises.

The following is the schedule of Income and Expenditure for the ensuing year. Each item has been carefully considered by the Financial Committee, and the amount of each item of Expenditure will not be exceeded in any case without a special reference to the Committee.

INCOME.

Admission fees, ...	1,000
Subscriptions, ...	8,600
Journal, ...	900
Library, ...	200
Secretary's Office, ...	20
Coin Fund, ...	80
Rs....	10,800

EXPENDITURE.

Journal, ...	5,000
Library, ...	2,150
Secretary's Office, ...	2,000
Building, ...	1,000
Coin Fund, ...	300
Miscellaneous, ...	350
Rs....	10,800

OFFICERS.

The division of the executive work of the Society among four honorary officers has been found to work admirably, and has rendered it possible to carry out many improvements which would have been impracticable under the old system of entrusting the entire work to one or at the utmost two Secretaries. Two new Committees have been formed during the past year, the Secretaryships of which have been undertaken by Mr. Beverley and Dr. J. Anderson. The former gentleman has not hitherto been a member of their body, and the Council have to return their cordial thanks for the valuable assistance he has rendered in conducting the business of the Linguistic Committee.

Babu Protap Chunder Ghoshe has been active and assiduous as Assistant Secretary and Librarian, and the Council have great pleasure in recording their satisfaction with his services.

JOURNAL.

The entire Volume for the past year is larger and more profusely illustrated than any issued for previous years, while it has been fully equal in the value of the matter to that of any previous year. Three numbers of Part I. and two of Part II. have already been issued, and

two more Nos. (one of each Part) are nearly ready for publication. A Special Ethnological number, containing a treatise on the Ethnology of India by the Hon'ble G. Campbell, with some important vocabularies, has also been issued, the price of which to subscribers it has been found necessary to fix at a higher rate than that of the ordinary series. Ten numbers of the Proceedings have also been published, in addition to a number containing the Index and tables for the Volume of 1865, and a double number, completing the Volume for the past year, will be issued in a few days.

All arrears of papers have now been cleared off, and it is believed that in the ensuing year the cost of the publications will be somewhat less therefore than during the past two years. But while the Council fully recognise the necessity for economy, they cannot recommend any curtailment of the publications, so long as reductions can be effected in other departments of the Society's expenditure.

LIBRARY.

Four hundred and sixty-nine volumes, periodicals and pamphlets have been added to the library during the past year and the literature of certain departments of Natural History in which the library was previously very deficient, has been largely added to.

During the ensuing year, the finances will unfortunately allow but a comparatively small expenditure on new works, but a book for recording the names of works which it is desirable to add to the library is kept open for the suggestions of members, and these will be considered, and such as are approved of, added to the library in the order of their importance, as the means of the Society may admit of.

BIBLIOTHECA INDICA.

The editors of the *Bibliotheca Indica* continue to carry on that serial with unabated zeal. They have brought out 24 numbers, including portions of 10 different works, within the year under report. Twelve of these are in Persian, one in Arabic, ten in Sanskrit, and one translation into English from the Sanskrit.

In the new series Mauluvis Kabir ul Din' Ahmad and Abdul Rahmán have published the first three fasciculi of the *Pádsháhnámeh* of Abdul Hamid Láhuri, a history of Shah Jehan which will be welcome to oriental scholars as a contemporary and authentic chronicle of the reign of that emperor. The work is being printed from a MS.

belonging to the Society which bears an autograph of Shah Jehan and there are several codices available for collation. As a continuation to it, Mauluvis Khádam Hosaim and Abdul Hai haye undertaken an edition of the history of Álamgír (Álamgírnámeh) by Mohammed Kázim, of which nine fasciculi have already been issued. Both the works are being printed under the able superintendence of Major Lees.

The Philological Committee have collected ample materials, and have made arrangements for the publication of a new and revised edition of the Ayin Akbary. Mr. Blochmann, who has undertaken to edit the work, has already made considerable progress in the task of collation, and the work will be sent to press immediately. The Government of India has been pleased to sanction a special grant of Rs. 5,000 for the publication of this work.

Pandit Rámnáráyana Vidyáratna has completed his edition of the *Srauta* Sútra of Áswalayana with a commentary, and is now engaged in an edition of the *Grihya Sútras* of the same author. The work contains rules for the performance of domestic ceremonies according to the ritual of the White Yajur Veda.

Of the aphorisms of the Mimánsá, Pandit Maheschandra Nyáyaratna has published two fasciculi; and of the *Taittiriya Aranyaka* of the Black Yajur Veda, Bábu Rájendralála Mitra has brought out two numbers. The last named gentleman was for some time engaged in collecting materials for an edition of the Yoga aphorisms of Patanjali, and has lately been able to send the work to press. It was originally intended that it should include the commentary of Vyása, but that work having been already taken up by Mr Cowell, for the Sanskrit Text Society of London, the Babu has limited his plan to the text of Patanjali with the gloss of Bhoja Deva and an English translation. This work will complete the Society's edition of the six Darsanas or text books of the leading philosophical schools of India.

In the Old Series, Mr. Cowell has completed the second volume of the Black Yajur Sanhita, and a fasciculus of the third volume has been brought out by Pandita Rámnáráyana Vidyáratna, to whom the work has now been made over. Of the Bráhmana of that Veda, Bábu Rájendralála Mitra has brought out two fasciculi. It is expected that he will be able to complete the work in the course of the current year. Bábu Pramadádása Mitra has issued one fasciculus of his transla-

tion of the Sáhitya Darpana, and Major Lees one of the Biographical Dictionary of persons who knew Mohamed. Both these works are now in a forward state for completion.

The following are lists of the different works published, or in course of publication, in the old and the new series.

OF THE NEW SERIES.

1. The Taittiríya Áranyaka of the Black Yajur Veda with the commentary of Sáyanáchárya, edited by Bábu Rájendralála Mitra, Nos. 88, 97, Fasc. III, IV.

2. The Srauta Sutra of Áswaláyana with the commentary of Gárgya Náráyána, edited by Rámanáráyána Vidyáratna, Nos. 90, 93, Fasc. IX, X.

3. The Mímánsa Darsána with the commentary of Sávara Swamin, edited by Pandita Mahesáchandra Nyáyaratna, Nos. 95, 101, Fasc. III, IV.

4. The Grihya Sútra of Aswalayana with the commentary of Gárgya Náráyana, edited by Rámanárayana Vidyáratna, No. 102, Fasc. I.

5. The Alamgir Námeh by Muhammad Kázim ibn-i-Mohammad Amin Munshi, edited by Mawlawis Khádim Husain, and Abdul Hai, Nos. 87, 89, 91, 92, 94, 98, 99, 103, 104, Fasc. I to IX.

6. The Bádshahnamáh by Abdul Hamid Láhawri, edited by Mawlawis Kabir Al Din Ahmad and Abdul Rahim, Nos. 96, 100, 105 Fasc. I, II, III.

OF THE OLD SERIES.

1. The Taittiríya Brahmána of the Black Yajur Veda with the commentary of Sayánachárya, edited by Bábu Rájendralála Mitra, No. 216, Fasc. XXI.

2. The Sáhitya-Darpana or Mirror of Composition, a treatise on literary criticis by Viswanatha Kavirája, translated into English by Babu Pramadádása Mitra, and the late James R. Ballantyne, LL. D. No. 217, Fasc. IV.

3. The Sanhitá of the Black Yajur Veda with the commentary of Mádhava Áchárya, edited by Rámanáarayána Vidyáratna, Nos. 218, 219, Fasc. XX, XXI.

4. A Biographical Dictionary of persons who knew Mohammad; by Ibn Hajár, edited in Arabic by Mawlawis Abdul Haqq and Ghoḷám Qádir, and Captain W. N. Lees, No. 215, Fasc. III.

Coin Cabinet.

The coin cabinet has received accessions of several new coins, including a collection of thirteen gold Indo-Scythians, several Greek, Bactrian, and Parthian silver pieces, and some gems. Measures are being taken for the arrangement and cataloguing of the collection, and the Council expect, that in course of the current year much will be done to render it easily accessible for reference and comparison.

The report having been read, it was moved by Mr. Beverley, and voted unanimously, that the report just read be approved.

The meeting then proceeded to elect the Council and officers for the ensuing year.

It was proposed by Mr Blanford and agreed to, that the Hon'ble J. P. Norman and Mr. H. H. Locke be appointed Scrutineers of the ballot.

The ballot having been taken, the President announced, on the report of the Scrutineers, that the following gentlemen had been elected to serve on the Council for the ensuing year.

Council.

Dr. J. Fayrer, President.

Dr. S. B. Partridge,
The Hon'ble G. Campbell,
A. Grote, Esq.
} Vice-Presidents.

E. C. Bayley, Esq.
Dr. T. Anderson.
Dr. J. Ewart.
Dr. D. B. Smith.
A. Mackenzie, Esq.
H. Beverley, Esq.
T. Oldham, Esq.
H. F. Blanford, Esq. General Secretary.
Bábu Rájendralála Mitra, Philological Secretary.
Dr. John Anderson, Natural History Secretary.
Lieutenant-Colonel J. E. Gastrell, Treasurer.

Mr. Mackenzie proposed and Dr. Fayrer seconded—that Dr. D. Waldie and Mr. Robinson be appointed auditors of accounts for the past year.

The President then addressed the meeting previous to vacating the chair.

He said that he congratulated the Society of Dr. Fayrer as their President. It was especially opportune, as the arrangment for the experiment of an ethnological congress, which had been first suggested by Dr. Fayrer, would have to be matured by the Society during the ensuing year, and would now have the benefit of Dr. Fayrer's personal supervision. As to the exact present position of that experiment, Dr. Fayrer would be better able to speak than himself, but he could at least say that the proposal had excited much attention and warm sympathy among scientific men and scientific bodies in Europe, and had already resulted in the collection of a large mass of information, both valuable and interesting, regarding the tribes of India and the countries on its borders.

As regards the position of the Society too, the year which had just passed was an important one. Their museum which, valuable and extensive as it was, had outgrown the measure of the Society's resources, had been handed over to the Trustees of the future Imperial Museum.

The President could not but think that experience had already shown the wisdom of this step. The valuable services of Dr. Anderson, which the Society's means could never have enabled it to secure, had already resulted in the addition of much that was required to the Collections, and had saved, improved and utilized much which they already possessed. The President was sure that all the members of the Society who visited the museum would at once recognise the value of Dr. Anderson's labours. And he was convinced that the transfer of the Society's collections to the museum would tend greatly to their improvement and better preservation, and to their better service to the cause of science.

To the members, these collections, with the collections of the new museum, would be still as freely and conveniently available as before, and he believed, in short, that the measure would only result in the greater usefulness, dignity and prosperity of the Asiatic Society.

On one subject only, the reports of the past year which had just been read were unsatisfactory, and it was the point on which the reports always had been unsatisfactory, and this was the pecuniary condition. The labours of Dr. Anderson had shown the necessity for a large expenditure even before the transfer; and this heavy outlay had told

heavily on the Society's means; he hoped, however, that now, relieved from the maintenance of their collections, their finances would soon recover, but there was and always would be an ample field in India and its immediate neighbourhood, for the profitable expenditure of any amount which either the Society or the Government could afford to devote to the development of antiquities, history or natural science.

In conclusion, he could not but regret that his own enforced absence from Calcutta had prevented him from being as useful to the Society as he could have wished to be. The Society was aware, however, that the Vice-Presidents, and especially Mr. Grote, had fully and ably done the work which ought to have fallen to the President's share; for this he begged leave to tender them his individual thanks, and would now with great pleasure vacate the chair to make room for Dr. Fayrer.

The President elect, on taking the chair, addressed the meeting as follows.

"Gentlemen; I have to thank you for the great though unexpected honour you have conferred on me by electing me to be the President of your Society. I must, however, express my conviction that you have not made a happy selection; I say so, because I think that the President of a Society, such as this, should be a person with more leisure at his command than I have, and of scientific attainments such as I can have no pretension to. Indeed I am at a loss to understand how the choice can have fallen on one so unfitted, as I am, for such an office, and I confess that my misgivings as to the results, cause me apprehension. When I reflect on the distinguished men who have preceded me, and on all they have done for the Society, I feel how entirely I am at a disadvantage, and how imperfectly even I can ever hope to do justice to the chair, in which you have placed me. On learning at the last meeting of the Council that it was the intention of that body to nominate me as their President, I hastily determined to decline the honour, but on stating my intention to some of my friends, and hearing that to do so would be displeasing to many for whom I entertain the highest regard, I determined to accept the office if offered to me, and do my best, (*i. e.* whatever the turmoil and uncertain leisure of a professional life will permit,) to give you satisfaction, and, if I can, with your aid, to promote the interests of the Society.

"It is at an eventful period in the history of the Asiatic Society, that the office of President has been assigned to me. In parting with its noble collections, and thus associating itself with the inchoate Imperial Museum. it has given an impulse to the progress of science in this country, that can hardly be over-estimated.

"Long possessed of one of the richest known collections of natural history, and enjoying the services of a distinguished naturalist as curator, it had yet the mortification of seeing these collections gradually suffer from neglect and decay; the valuable services and contributions of its best supporters frustrated, if not altogether lost; the progress of natural science languishing, and energy failing, because the necessary funds were not forthcoming to meet the demand; and notwithstanding the subsidy of a Government which has so often generously aided in the advance of knowledge, the Society was unable to keep pace with the requirements of the period, or to maintain, in its due freshness and integrity, the position to which it might have fairly been entitled in the scientific world. This happily is no longer to be the case. It is sufficiently apparent even to the most casual observer, among those who frequent the Society's meetings, that a great change has already taken place; and I feel certain that what we now see is but an earnest of much more that is to come.

"The Imperial Museum will hold our collections. The curator of that Institution will jealously preserve and guard whatever we entrust to his care. Scientific men and others in India will contribute to him what they *would* have sent to us; but our interest is still with our collections, and to us the world will look for further contributions and further elaboration and generalization of the mass of material already accumulated. With the impulse that science has received by the recent conjoined action of the Government and the Society, I would venture to hope that increased activity in furthering scientific enquiry will agitate its members generally; and that a more vivid appreciation of scientific research, and the importance of a more zealous investigation into the large field of knowledge which still lies open in India, will characterize the efforts of every individual connected with the Society; that these rooms will be the scene of many animated discussions of subjects connected with every department of science; and the object of the founder may be fulfilled,—"That enquiry may be fully extend-

ed, within the geographical limits of Asia, to whatever is performed by man or produced by nature."

"The annual Report, to which you have just listened, has informed you of much of what has been done, and of the condition of the Society at the close of the past year. It betokens activity and onward movement; it indicates that large and important questions have been dealt with by the Society, not only in the Department of oriental languages, in which it has always held so high a place, under the direction of the eminent native and European philologists who have contributed so largely to the 'Bibliotheca Indica,' but also in zoology, archæology, meteorology and other departments of natural science, in which enquiry has been pushed, and progress made.

"Questions of the day, most occupying men's minds,—those connected with the origin of our species,—the history, affinities and relations of the infinite number of varieties of the human race, whether illustrated by physical conformation or linguistic peculiarities, have been prominently brought before the Society, for investigation; and are perhaps, at your hands, to receive the solution of some of the most interesting problems connected with the enquiry.

"The Natural History of the Fauna and Flora of the country, its mineral and other telluric treasures, already much investigated by many able men, yet present ample field for research and discovery.

"A noble Botanic Garden and herbarium, although unconnected with the Society, (which we may hope to see supplemented by a section of Economic Botany, in the Museum) already represent the treasures of this department of the organized kingdoms of nature.

"In Geology and Palæontology, a museum and records worthy of the distinguished Geologists who are at the head of that Department of Science in India, are accessible to the scientific world, and are available to you either for study or comparison.

"For those who are interested in numismatic and archæological relics, collections exist in the Society's Museum, of no mean repute; and it is with pleasure that I note the commencement of a Department of Social Science under the auspices of a talented and energetic member of our Society, which is thus indirectly connected with the Asiatic Society. I have also the gratification of recording the initiation of a movement among several members of the Society and others, for

establishing that most useful and instructive of all places of public recreation, a Zoological garden. This is a subject which I trust will receive public support and the countenance of the Society, and will soon be reckoned among the accomplished facts of Calcutta.

"It is a subject of congratulation in the interests of natural science, that the Society has many energetic collectors, enquirers and contributors scattered over the length and breadth of the land; all working, and zealous for its well-doing.

"The geological, topographical, geometrical and archæological surveys are steadily progressing, and accumulating funds of information of the most important nature, under the eminent men who direct their operations, and to whom we may naturally look for—and from whom indeed we have always received—the most valuable contributions to our present stock of knowledge. With such means at our disposal,—with such great opportunities,—with a Government well disposed towards the pursuit of science, and some of whose members are on our roll,—with an able staff and select committees to work each department of scientific enquiry,—surely we ought not to fail in contributing that quota of knowledge to the great general stock, which is naturally looked for, and may be expected from us by kindred societies in Europe.

"You will have observed that it has not been altogether progress during the past year. Financially the Society has been and is embarassed, but we may reasonably hope that the increasing number of the members will obviate for the future this source of trouble, and that the many long outstanding arrears will be speedily liquidated. We have suffered too by the inscrutable hand of death. You have heard an obituary notice of several eminent and staunch supporters of the Society, among whom I regret to say that of Sir G. Everest ought to have appeared. They were good and true men, earnest enquirers into those questions which engage our Society and the scientific world generally; and though it is perhaps neither the time nor place to allude further to what they have done, or to express our regret for their loss, yet I cannot refrain from adding one tribute of regret to that which has lately engaged the sympathies of men of every denomination, for the untimely loss of a good man, cut off in his prime in the midst of a noble work, respected and beloved alike by learned and unlearned, by members of all sects, and every religious denomination and creed.

"But there is business of importance still before the meeting, and I ought not to detain you longer. I again thank you for the honour you have done me, and express a hope that the year to come may be even more prosperous than that just passed away."

The meeting then resolved itself into an ordinary monthly meeting.

The minutes of the previous meeting were read and confirmed.

The following presentations were announced—

1. From Baboo Bishwambhar Nath Mookerjee; a pair of sandals made of *patha* leaves, a kind of plant abundant in Peshawar

2. From C. J. Crawford, Esq., through Mr. Grote; a steel print portrait of Dr. Latham.

3. From the Deputy Commissioner of the Upper Godavery district, two human skulls.

4. From the Rev. G. U. Pope, through the Rev. C. H. A. Dall; five Tamil printed works, by the Rev. G. U. Pope.

5. From Dr. J. Fayrer; a spear of a Naga chief, and a bow and arrows from the Andaman Islands.

The following letter from W. Masters, Esq., on the November fall of meteors, was read:—

"I respond to the spirit of your last letter by forwarding an account of meteors that fell on the 14th instant, for record in the Proceedings of your Society. I have sent a popular account of them to the "Englishman" for general information: to this I shall add a few particulars which I did not consider of sufficient interest to insert in the original.

"My attention was first drawn to these visitors to our sphere, in 1833 (I believe), when, a little before sunrise, while seated in an upper verandah in Calcutta and looking south, I observed white, pearly, flakey, I might almost say, tiny spiritual things of the shape of Rupert drops falling, as I fancied, perpendicularly down, about a yard or two apart, and about 15 succeeding each other in two or three minutes within the range of direct vision. Day followed too quickly for this exhibition to last long.

"Since that time I had been watching their recurrence without success; and was on the look out for them from the 9th to the 13th instant, when only a few stragglers presented themselves. Up to 11

P. M. of the 13th, there was no sign of meteors; but at half-past 4 A. M. of the 14th instant, they were in great abundance over Kishnaghur. I cannot say at what hour they first began to fall, although I have made inquiries of watchmen and others. I looked out about half past four, or a quarter to five, and observed them shooting along the sky divergingly and very rapidly, from some part of the *head* of *Leo major;* and by their manner of comporting themselves, was immediately convinced that we had come upon the great shoal of November. I was most interested in detecting, if possible, the precise point of divergence; and it soon became evident that, contrary to received opinion, γ *Leonis* was not the starting point. After counting fifty in about five minutes, I woke up five others to witness the phenomenon and give aid in watching and counting.

"We arranged ourselves looking in different directions, and as each saw a meteor, there was a distinct call of the next number 51, 52, 53 &c.; the stars shooting out sometimes faster than they could be counted: some were lost on this account; some, owing to the excitement of my young coadjutors; and many, while I was waking up aid. Yet, in less than half an hour, we counted four hundred and twenty; had we been all together during the half hour, we should certainly have counted more than five hundred.

"The velocity of these meteors was exceedingly great; there was no lagging or hesitation in their course, as is frequently the case with ordinary meteors: but they darted like rockets from an unseen centre, sometimes three or four in one direction nearly, slightly diverging, leaving long and short trains with much divergence horizonwards and narrow convergence upwards. I shall call these α for reference in the sequel. Others shot in different directions, east, west, north, and south, and intermediate points were filled up in rapid succession; not one appeared to fall perpendicularly to the earth; all described glowing arcs in the sky, varying from 20° to 60°; a few points of light excepted, which described scarcely 3° or 4°.

"Their decided and long courses, all seeking the horizon directly, and their persistent trains of light, which looked like meridians on a globe, strongly and unmistakably pointed to a spot in the head of *Leo major*, then some degrees eastward of the zenith, as their radiating point.

"The meteors did not actually start into view at one point; many commenced their courses about 30° or 40° from the supposed point of divergence, seeking the different points of the horizon, while the upper portions of their trains pointed to the same spot in the sky. These were generally large and bright, and illumin[illegible]he trees and walls like a flash of lightning from a thunder cloud near the horizon; others, comparatively small, darted or first shewed themselves only a few degrees from the radiating centre, sometimes three at once, leaving their trains for leisurely tracing backwards; those with long trains and long courses, generally burst or blazed out about 20° or 30° from the horizon; some within 20° of it No sound of any kind was heard: the light of these meteors, when they blazed out, was reddish: the trains left behind were generally broad, spreading about half a degree, glowing at first like the fresh mark of phosphorus on a wall, then quickly becoming pale like the tail of a comet, or like the mingling of muriatic acid gas and ammonia, and lasting from half a minute to one minute and a half.

"One took me quite by surprise; it blazed out like a star of the 2nd or 3rd magnitude between μ and ϵ of *Leo major*, as bright as ϵ but not of the some silveryness or intensity, and gradually faded away in the same spot, without any visible *linear course* whatever: it suggested the idea of a meteor coming straight to the eye.

"I looked out again at 6 A. M. before the sun rose, and saw a streak of white light, like a Rupert's drop with a long thread behind, shoot down from the direction of *Leo major*, to *Capella Alajoth* in the north west, the only star then visible. It appeared to be close at hand, and looked exactly like those of 1833, with the exception of the long thread. About three or four of the meteors enumerated above did not shoot from the diverging point: if they belonged to the same set, they must have been drawn out of their course.

"After as careful a survey as the circumstances would permit, I have no doubt that the centre of radiation was somewhere between the two stars in the head of *Leo major*, viz. ϵ and μ; and probably at the precise spot where a meteor appeared and disappeared. I saw one meteor start a few degrees north of μ, (scarcely 3°,) to a point between north and north-east, and its course, traced backwards, passed straight over μ and ϵ; and the clear impression of the moment on my mind

was, that a line darted from ϵ across μ and onward, the line becoming a meteor some distance farther on. Again, the set of three or four which I have called a above, shot south-eastward, leaving *Regulus* a little to the east: starting nearly on a parallel with *Regulus*, their pale traces, left in the sky, converged unmistakeably up to ϵ and μ, one trace proceeding a little more north than the other: and the meteor noticed above which blazed out between these two stars appears to reveal the true point of divergence: Some point near γ *Leonis* was the diverging point in 1833; if other observers confirm my statement, some step, I imagine, will be gained towards the determination of the orbit of the November shoal.

"On the supposition that the meteors are not self-luminous, but become visible after contact with our atmosphere, it would appear that the atmosphere was unpierced by any meteors, (two excepted,) to a distance of about 10° at most, all round ϵ.

"The apex of the Zodiacal light appeared to be some degrees south of both of ϵ and γ Leonis."

21st November, 1866.

"As a sequel to my letter of the 21st ultimo regarding the November meteors, I beg to forward the following particulars. The 27th to the 29th November, and 7th to 12th December, are dates of observation for meteors of a similar kind; but diverging meteors were not seen again or detected till 2½ A. M. of the 12th December; they might have come on at an earlier hour of that date, and they appear to have passed off by 3 A M.

"They shot divergingly and with great rapidity, not from a point near γ or ϵ *Leonis*, but some point to the westward of these, between ζ in the muzzle of *Leo Major* and the small stars in the foot of the *Lynx* and the tip of its tail; some point about 29° or 30° of north Declination, and 136° of Right Ascension. They darted out at the rate of about three per minute; were small, described short and thin arcs of light, and left no traces: hence it was difficult to fix with any degree of precision upon the exact point of divergence. Some showed themselves only as moderate blazes or bursts of light about 40° or 50° from this point, without any visible arc of light or course. A bright meteor with a long train shot across the area of divergence from nearly due south to north, or from *Alphard* in *Hydra* to θ in *Ursa Major*.

"This display of meteors had nothing brilliant or exciting in it: but notwithstanding its tameness, I think it should be recorded."

A letter from Dr. Duka presenting a specimen of a meteorite was read.

"The piece of stone which I have the honor of presenting to the Society, is a fragment of a large meteorite that fell near Knyahinya in the neighbourhood of Nagy-Berezna in the county of Ungvár in the north-east of Hungary, near the border of Gallicia.

"The phenomenon occurred on the 9th of June last, and according to the statement of Professor Hirsch, communicated by him to Dr. Haidinger of Vienna, the fragments were very numerous, as many as sixty pieces being in the possession of different parties.

"It appears from all I could gather in the country, that on the afternoon of the above-mentioned day, between 4 and 5 o'clock, an enormous detonation took place, which could be compared to a simultaneous discharge of one hundred pieces of artillery. High on the horizon a small cloud was visible, about ten times the size of the sun; otherwise the heaven was perfectly clear. Upon the detonation, the cloud dispersed in a radiating manner, and in the vacuity no flash was visible. Two or three seconds after the discharge a noise was heard, which seemed to be caused as if waters or rocks were dashing one against another, and this lasted for nearly fifteen seconds; and at last, with all traces of the cloud, entirely subsided. The labourers working in the fields near the spot, state that, for full half an hour afterwards, a smell of sulphur surrounded them.

"All the fragments were collected within the circumference of about 1,200 yards: they vary in weight from a few ounces to large masses, one of which weighs 27 pounds. A Jewish publican who was quite close, took up a fragment immediately on its falling down, and declares that it was cold like ice, but that his hands smelled of sulphur or garlic for two days subsequently.

"The phenomenon was seen in all directions of the compass, but at a distance, it appeared, instead of a mere cloud, like a ball of fire; and the furthest distance from which it was reported to have been noticed, is about 80 English miles.

"As this phenomenon occurred about the time when the late disastrous Austrian campaign was about to commence, it excited more than

ordinary interest throughout Austria, and I doubt not but that a full account of it will in due time be published by some of the Scientific Societies in the Empire.

"My specimen is 1 lb 4 ozs. 72 grs. in weight and 8 to 9½ inches in circumference and is I believe of a structure and composition similar to the Aerolite which fell near Parnallee in February 1857."

Lieutenant W. J. Williamson, and G. A. D. Anley, Esq., duly proposed at the last meeting, were balloted for and elected as ordinary members.

The following gentlemen were named for ballot as ordinary members at the February meeting.

Colonel J. C. Brooke; proposed by Dr. J. Anderson, seconded by Dr. J. Ewart.

Lieutenant-Colonel Blair Reid, Governor-General's Agent at Chumla; proposed by Dr. J. Anderson, seconded by Mr. Grote.

E. V. Westmacott, Esq., C. S., B. A., Assistant Commissioner, Manbhoom; proposed by Dr. J. Anderson, seconded by Mr. H. F. Blanford.

Alfred Woodley Croft, Esq., Professor, Presidency College; proposed by J. B. Branson, Esq., seconded by Mr. H. F. Blanford.

John Anderson Paul, Esq., Exchange Hall; proposed by J. H. Branson, Esq., seconded by Mr. H. F. Blanford

Letters from Dr. R. Bird and Lt. H. Trotter, intimating their desire to withdraw from the Society were recorded.

An Ethnological Report of the Government of the Straits Settlement was submitted.

In connection with the proposed Ethnographic Congress, Dr. Cleghorn exhibited five photographs by Messrs. Bourne and Shepherd, illustrating the aborigines of the Himalaya and adjacent countries, who occasionally find their way to Simla. The *Kanaits* of the Hill States and the *Guddees* of Kangra were represented in their proper costume. The most interesting group contained the figures of a Lama from Lhassa and a North Tibetan from Zauskar, rarely seen at that sanatorium.

The receipt of the following communications was announced—

1. From Baboo Gopee Nath Sen, Abstract of Hourly Meteorological Observations made at the Surveyor General's Office in September last.

2. From H. Blochmann, Esq., M. A.

"Notes on Sherajuddaulah and the town of Moorshedabad, taken from a Persian manuscript of the Tarikhi-i-Mansuri."

3. From F. S. Growse, Esq., M. A. Oxon B. C. S.

"Philological Notes."

4. From Professor E. Von Schlagintweit.

"Notes in reference to the question of the origin of the aboriginal tribes of India."

5. From J. Beames, Esq., C. S.

"Further Notes on the derivation of 'Om and Amen.'

LIBRARY.

The following are the additions made to the Library since the meeting held in September last.

Presentations.

* * *The names of Donors in Capitals.*

Die Fossilen Mollusken des Tertiär-Beckens von Wien, by Dr. M. Börnes (Band. II. Nos. 5 and 6. Bivalve).—THE AUTHOR.

Proceedings of the Delhi Society (in Persian).—THE SOCIETY.

A Treatise on Cultivation (in Persian).—THE DELHI SCIENTIFIC SOCIETY.

Catalogue of the American Philosophical Society's Library, Part 2.—THE SOCIETY.

Reise der Oesterreichischen Fregatte Novara um die Erde in den Jahren, 1857-58-59, unter den Befehlen des Commodore B. Von Wüllerstorf-Urbair. Nautisch-Physicalischer Theil.—THE AUTHOR.

An Index to Aitchison's Treatises, Engagements and Sunnuds.—THE GOVERNMENT OF BENGAL.

Ditto ditto.—THE FOREIGN OFFICE.

A Manual of Mahomedan Civil Law in Canarese by Lieut. R. A Cole.—THE AUTHOR.

Hindu Social Laws and habits viewed in relation to health, by Baboo Kony Lall Dey.—THE AUTHOR.

Illustrated Catalogue of the Museum of Comparative Zoology at Harvard College, No. 1 : Ophiuridæ and Astrophytidæ, by Professor T. Lyman.—THE MUSEUM.

Ditto ditto No. 2; N. American Acalephæ by Professor A. Agassiz.—THE AUTHOR.

Bulletin of the Museum of Comparative Zoology.—PROFESSOR AGASSIZ.

Report on the Calcutta Cyclone; by Lieut.-Col. J. E. Gastrell and H F. Blanford, Esq.—THE GOVERNMENT OF BENGAL.

Extracts from Harrington's Analysis of Bengal Regulations.—THE FOREIGN OFFICE.

Abhandlungen der Königlichen Academie der Wissenschaften zu Berlin, 1864.—THE ACADEMY OF SCIENCE OF BERLIN.

Observations on the functions of the liver by Dr. R. M'Donnell.—THE AUTHOR.

Catalogus Codicum Orientalium Bibliothecæ Academiæ Lugduno-Batavæ by P. Jong and M. J. de Goeje.—THE AUTHORS.

Ichthyologischer Bericht über eine nach Spanien und Portugal unternommene Reise by Dr. F. Steindachner.—THE AUTHOR.

The Progress of England; a poem; to which are added Notes on the organization of the British Empire.—THE EDITOR.

Annals of Indian Administration, Vol. IX, Parts 3 and 4, Vol. X, Parts 1 to 3.—THE BENGAL GOVERNMENT.

Journal of the Chemical Society, Vol. IV; July, August and September, 1866:—THE SOCIETY.

Quarterly Journal of the Geological Society of London, Vol. XXII, Nos. 87, 88.—THE SOCIETY.

Journal of the Royal Geological Society of Ireland, Vol. I, Part 2:—THE SOCIETY.

Journal Asiatique, Vol. IV, No. 15, Vol. VII, Nos. 24, 27, Vol. VIII, No. 28, sixth series:—THE ASIATIC SOCIETY OF PARIS.

Proceedings of the Royal Society, Vol. XV, Nos. 85, 86.—THE ROYAL SOCIETY OF LONDON.

Journal of the Statistical Society of London, Vol. XXIX, Part 3:—THE SOCIETY.

Bijdragen Taal-land-en Volkenkunde van Nederlandsch Indië, Vol. I, Parts 1 and 2, 3rd series.—THE SOCIETY.

Transactions of the Linnean Society of London, Vol. XXV, Part 2.—THE SOCIETY.

Journal of Sacred Literature, Vol. X, No. 19.—THE EDITORS.

Journal of the Proceedings of the Linnean Society, Zoology, Vol. VIII. Nos. 31, 32, 33.—THE SOCIETY.

Ditto ditto, Botany, Vol. IX, Nos. 36, 37, ditto ditto.—THE SOCIETY.

Sitzungsberichte der K. Akademie der Wissenschaften zu München; Vol. I, Parts 1 to 4; Vol. II, Parts 1, 2 :—The Society.

The Calcutta Christian Observer, Nos. 318, 319, 322 and 323.—The Editor.

Philosophical Transactions of the Royal Society of London, Vol. CLIV, Part 3, Vol. CLV, Part 1.—The Society.

Rahasya Sandarbha, Vol. II, No. 34.—The Calcutta School Book Society.

Memoirs of the Geological Survey of India, (Palæontologia Indica), Vol. IV, Part 1.—The Government of India.

Ditto ditto, Vol. IV. Part I.—The Government of Bengal.

Ditto ditto, Vol. IV. Part I :—The Superintendent of the Geological Survey.

Report (Annual) on the Administration of the Province of Oudh for 1864-65.—The Government of Bengal.

Report on the Administration of the Madras Presidency, for 1864, 1865.—The Government of Bengal.

Selection from the Records of Bengal Government, No. 42.—The Government of Bengal.

Return shewing the operations of the Income Tax Act in the N. W. P. for 1864-65.—The Government of Bengal.

Proceedings of the Royal Institution of Great Britain, Vol. IV, Parts 5, 6.—The Royal Institution.

Selection from the Records of the Bombay Government, No. 96.—The Government of Bombay.

Journal of the Royal Asiatic Society of Great Britain and Ireland, Vol. II, Part I.—The Society.

Bulletin de l'Académie Impériale des Sciences de St. Petersbourg, Vol. VII, Nos. 3 to 6, Vol. VIII, Nos. 1 to 6, Vol. IX, Nos. 1 to 4. :—The Academy.

Memoires de l'Académie Impériale des Sciences de St. Petersbourg, Vol. IX, Nos. 1 to 7, Vol. X, Nos. 1 to 2.—The Imperial Academy.

Proceedings of the Royal Geographical Society of London, Vol. X, Nos. 4, 5.—The Royal Geographical Society.

Memoirs of the Royal Astronomical Society of London, Vol. XXXIV.—The Society.

Memoirs of the Geological Survey of India, Vol. IV, Part 3, Vol. V, Parts 1, 2, 3.—The Superintendent of the Geological Survey.

Catalogue of the Organic remains belonging to the Echinodermata in the Museum of the Geological Survey of India.—THE SAME.

Zeitschrift der Deutschen Morgenländischen Gesellschaft, Vol. XX, Part 2 :—THE EDITOR.

Annual Report, with Tabular Statements for the year 1865, on the condition and management of the Jails in the N. W. P.—THE GOVT. N. W. P.

Nyt Magazin for Naturvidenskaberne, Vol. XIII, Part 4, Vol. XIV, Part 1.—THE EDITORS.

Det Kongelige Norske Frederiks Universitets Aarsberitning, 1863.—THE UNIVERSITY OF CHRISTIANIA.

Proceedings of the Royal Irish Academy, Vols. VII, VIII, and IX, Part 1.—THE ACADEMY.

Transactions of the Royal, ditto ditto, Vol. XXIV, Antiquities, Parts 3, 4, 5, 6 and 7.—Ditto ditto.

Ditto ditto ditto ditto, Science, Parts 4, 5, 6.—Ditto ditto.

Ditto ditto ditto ditto, Polite Literature, Parts 2, 3.—Ditto ditto.

Report on the Survey Operations of the Lower Provinces of Bengal, 1st October, 1864 to 30th September, 1865.—THE GOVERNMENT OF BENGAL.

Report (General) on the Revenue Survey Operations of the Bengal Presidency for 1864-65.—FOREIGN DEPARTMENT.

Selection from the Records of Government N. W. P. Part XLIV.—THE GOVERNMENT OF BENGAL.

Selections from the Revenue Records for 1818-20.—THE SAME.

Monatsberichte der Königlich Preussischen Akademie der Wissenschaften zu Berlin, for 1865.—THE ACADEMY OF SCIENCE, BERLIN.

Compilation from Rollins' Ancient History, with additions; translated into Urdu No. 9.—THE SCIENTIFIC SOCIETY OF ALIGHUR.

Selection from the Records of the Government of India, (Foreign Department) No. 5.—THE GOVERNMENT OF INDIA.

Auctores Sanscrita, Vol. I, Parts 1, 2.—THE SANSCRIT TEXT SOCIETY.

Recueil de Voyages et de Memoires, publié par la Société de Géographie, Vol. VII.—THE SOCIETY.

Fyzabad Settlement Report, Nos. 1 to 3.—BY P. CARNEGY, ESQ.—THE AUTHOR.

Report (Annual) of the Dispensaries of N. W. P. for 1865.—THE GOVERNMENT OF THE N. W. P.

Exchanges.

The Athenæum for July, August, September and October, 1866,

The Philosophical Magazine and Journal of Sciences, Vol. XXXI, Nos. 214, 215, Vol. XXXII, No. 216.

Purchases.

Cowasjee Pattell's Chronology.

Les Religions et les Philosophies dans l'Asie Centrale by M. l' E. Gobineau.

The Ferns of British India, Part 14, by Capt. R. H. Beddome.

Sanscrit Wörterbuch, Part 31.

Sketches in India; by Capt. A. N. Scott.

La Maha Bharata, by H. Fauche, Vols. IV. and V.

The Kamil of El Mubarrad, Part 2, by W. Wright, Esq.

Hewitson's Exotic Butterflies, Part 60.

Essay on the Sacred language, writing and religion of the Parsees; by Dr. M. Haug.

Günther's Zoological Records, Vol. II.

Dictionary of British Indian Dates.

Idylls from the Sanscrit; by R. T. H. Griffith.

Reeve's Conchologia Iconica, Parts 258 and 259.

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Journal des Savants, July, August, September and October, 1866.

The Quarterly Review, Vol. CXIX, Nos. 239, 240.

Revue des Deux Mondes, from 15th July to 1st November, 1866.

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Annalen der Physik und Chemie, Band CXXV, Stück 12.

The Indian Medical Gazette, Nos. 10 and 11.

The American Journal of Science and Arts, No. 125, for September, 1866.

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LIST OF MEMBERS

OF THE

ASIATIC SOCIETY OF BENGAL,

ON THE 31ST DECEMBER, 1866.

LIST OF ORDINARY MEMBERS.

The * distinguishes Non-Subscribing and the † Non-Resident Members.

Date of Election.			
1847	June	2.	†Abbott, Brigdr.-Genl. J., Royal Artillery. — Dinapore
1860	Dec.	5.	Abdool Luteef, Khan Bahadur, Maulavi. — Calcutta
1865	June	7.	Agabeg, J. Esq. — Calcutta
1860	July	4.	†Ahmad Khan, Saiėd, Bahadur. — Allyghur
1862	April	2.	†Aitchison, C. U. Esq., C. S. — Lahore
1862	April	4.	†Aitchison, J. E. T. Esq., M. D. — Umritsar
1859	Feb.	2.	*Alabaster, C. Esq. — China
1866	Jan.	0.	†Allan, Major A. S. — Allahabad
1852	July	7.	*Allen, C. Esq., B. C. S. — Europe
1864	May	4.	†Alexander, N. S. Esq., C. S. — Purneah
1860	Oct.	3.	Amir Ali Khan, Múnshí. — Calcutta
1861	May	1.	Anderson, Dr. T., F. L. S. — Calcutta
1865	Jan.	11.	Anderson, Dr. J., F. L. S. — Calcutta
1843	Sept.	4.	*Anderson, Lieut.-Col. W., Bengal Artillery. — Europe
1866	July	4.	†Anderson, A. Esq. — Fyzabad
1864	Dec.	7.	Anderson, W. Esq. — Calcutta
1860	Nov.	7.	†Anley, W. A. D., Esq. — Sarun
1861	Sept.	4.	Asghur Ali Khan Bahadur, Nawab. — Calcutta
1861	July	3.	*Asphar, J. J. T. H. Esq. — Europe
1864	Dec.	7.	†Atkinson, E. F. T. Esq. — Jaunpore
1855	July	4.	Atkinson, W. S. Esq., M. A., F. L. S. — Calcutta
1861	Feb.	6.	†Austen, Capt. H. H. G., H. M.'s 24th Foot, Surv. Genl.'s Dept. — Dehra Dhoon
1826	Sept.	6.	Avdall, J. Esq. — Calcutta
1835	Oct.	7.	*Baker, Col. W. E., Bengal Engineers. — Europe
1865	Nov.	1.	Ball, V. Esq. Geol. Survey. — Calcutta

Date of Election.			
1866	Sept.	5.	Ballard, Lieut.-Col. H., C. B. — Calcutta
1860	Nov.	7.	Banerjea, Rev. K. M. — Calcutta
1864	May	4.	Barry, Dr. J. R. — Calcutta
1866	Jan.	17.	Barton, Rev. J. — Calcutta
1862	Aug.	6.	†Basevi, Capt. J. P., Royal Engineers. — Dehra Dhoon
1860	July	4.	*Batten, G. H. M. Esq., B. C. S. — Europe
1838	Jan.	3.	*Batten, J. H. Esq., B. C. S. — Europe
1859	May	4.	Bayley, E. C. Esq., B. C. S. — Calcutta
1861	Feb.	6.	Bayley, S. C. Esq., B. C. S. — Calcutta
1849	June	6.	Beadon, Hon'ble Sir Cecil, B. C. S. — Calcutta
1864	Sept.	7.	†Beames, J. Esq., B. C. S. — Motchary / Chumparun
1841	April	7.	Beaufort, F. L. Esq., B. C S. — Calcutta
1861	Sept.	4.	*Beavan, Lieut. R. C., late 62nd B. N. I. — Europe
1847	Aug.	4.	Beckwith, J. Esq., — Allipore
1830	Sept.	1.	*Benson, Lieut.-Col. R. — Europe
1862	Dec.	3.	†Bernard, C. E. Esq., B. C. S. — Nagpore
1862	Aug.	6.	Beverley, H. Esq., C. S. — Calcutta
1862	June	4.	†Bhau Daji, Dr. — Bombay
1862	July	2.	Bhola Nath Mullick, Bábu. — Calcutta
1864	Nov.	2.	Bhoodeb Mookerjee, Bábu. — Chinsurah
1840	July	15.	*Birch, Major-General Sir R. J. H., K. C. B. — Europe
1864	May	4.	Bird, Dr. R., Civil Surgeon. — Howrah
1846	Mar.	4.	*Blagrave, Major T. C., 26th Regt., B. N. I. — Europe
1859	Sept.	7.	Blane, Lieut.-Col. S. J. — Calcutta
1857	Mar.	4.	Blanford, H. F. Esq., A. R. S. M., F. G. S. — Calcutta
1859	Aug.	3.	†Blanford, W. T. Esq., A. R. S. M., F. G. S. Geol. Surv. — Bombay
1864	April	6.	Blochmann, H. Esq., M. A. — Calcutta
1857	Aug.	2.	*Bogle, Lieut.-Col. Sir A., Kt. — Europe
1859	Aug.	3.	Bolie Chand Singh, Bábu. — Calcutta
1866	June	6.	Bourke, W. M. Esq. — Calcutta
1859	Oct.	12.	*Bowring, L. B. Esq., B. C. S. — Europe
1854	Nov.	1.	*Boycott, Dr. T., B. M. S. — Europe
1865	May	3.	†Bradford, C. W. V. Esq. — Hooghly
1860	Mar.	7.	*Brandis, Dr. D. — Europe
1860	Oct.	3.	Brandreth, Hon'ble J E. L. — Calcutta
1864	Dec.	7.	Branson, J. H. A. Esq. — Calcutta
1862	Jan.	15.	*Briggs, Major D. — Europe
1866	April	4.	†Broderick, H. C. Esq., M. D. — Augur W. Mulwa Central India Horse
1847	June	2.	*Brodie, Capt. T., 5th Regt., B. N. I. — Europe

Date of Election		
1866 Jan. 17.	Brown, Lieut.-Col. D.	Amherst
1860 Nov. 7.	†Browne, Capt. Horace A.	Rangoon
1866 Feb. 7.	Browne, Rev. J. Cave	Calcutta
1866 June 6.	†Brownfield, C. Esq.	Gowhatty
1866 June 6.	Buckle, Dr. H. B., C. B.	Calcutta
1863 Aug. 5.	Bunkim Chunder Chatterjee, B. A. Bábu.	Barripore
1856 Sept. 3.	Busheerooddin, Sultan Mohammad.	Chinsurah
1860 June 6.	†Campbell, C. J. Esq., C. E.	Delhi
1859 Sept. 7.	Campbell, Dr. A.	Europe
1863 June 3.	Campbell, Hon'ble G.	Calcutta
1860 Jan. 3.	†Carnac, J. H. Rivett, Esq., B. C. S.	Nagpore
1865 Nov. 1.	†Carnegy, P. Esq.	Fyzabad
1860 Oct. 3.	†Christian, J. Esq.	Monghyr
1863 Aug. 5.	†Chunder Nath Roy, Cowar.	Natore
1863 April 1.	Cleghorn, Dr. H.	Calcutta
1863 June 3.	†Clementson, E. W. Esq.	Moulmein
1864 May 4.	†Cline, G. W. Esq. L.LD. F. G. S.	Nagpore
1861 Sept. 4.	†Cockburn, J. F. Esq., C. E.	Kurhurbari Colliery
1862 April 2.	Colles, J. A. P. Esq., M. D.	Calcutta
1851 Mar. 5.	*Colvin, J H. B. Esq., B. C. S.	Europe
1860 Dec. 5.	†Cooper, F. H. Esq , B. C. S.	Lahore
1857 Mar. 4.	*Cowell, E B Esq., M. A.	Europe
1866 May 2	*Cox, W. H. Esq.	Europe
1866 Jan. 17.	Crawford, J. A. Esq., C. S.	Calcutta
1861 July 3	*Crockett, Oliver, R. Esq.	China
1866 Feb. 7	†Daly, N. Esq.	Myanoung Burma
1862 April 2	*Dalrymple, F. A. E. Esq., C. S.	Europe
1847 June	†Dalton, Lieut.-Col. E. T., 9th Regt. B. N. I.	Chota Nagpore
1861 Mar. 6	†Davey, N. T. Esq., Revenue Survey.	Dacca
1865 May 3	Davies, C Esq.	Rotasghur
1861 Nov. 6	†Davies, R. H. Esq , B. C. S.	Oudh
1864 July 6	†Debendra Mullick, Bábu.	Calcutta
1856 June 4	†DeBourbel, Major R., Bengal Engrs.	Assam
1861 June 5	*Denison, His Excellency Slr W. K. C. B.	Europe
1863 Feb. 4	†Deo Narain Singh, Hon'ble Rajah.	Benares
1863 June 3	†Depree, Capt. G.C., Royal Artillery	Chota Nagpore
1861 Mar. 6	*Devereux, Hon'ble H. B., B C. S.	Europe
1862 May 7	†Dhunpati Sinha Dooghur, Roy Bahadur.	Azimgunge

Date of Election.				
1853	Sept.	7.	Dickens, Lieut.-Col. C. H.	Calcutta
1860	Nov.	7.	Digumber Mitra, Bábu.	Calcutta
1859	Sept.	7.	*Douglas, Lieut.-Col. C.	Europe
1854	July	5.	†Drummond, Hon'ble E., B. C. S.	Allahabad
1864	Dec.	7.	*Dunlop, H. G. Esq.	Europe
1860	Jan.	4.	†Duka, Dr. T.	Simla
1861	May	1.	*Earle, Capt. E. L., Bengal Artillery.	Europe
1857	May	6.	*Eatwell, Dr. W. C. B.	Europe
1840	Oct.	7.	*Edgeworth, M. P. Esq., B. C. S.	Europe
1863	May	6.	†Edgar, J. W. Esq., B. C S.	Cachar
1865	Feb.	1.	†Egerton, P. H. Esq., B. C. S.	Umritsar
1846	Jan.	7.	*Elliott, Walter, Esq., M C. S.	Europe
1859	Nov.	2.	†Elliott, C. A. Esq., B. C. S.	Futtehghur
1863	April	1.	†Ellis, Hon'ble R. S., C. S., C. B.	Madras
1856	Mar.	5.	*Ellis Lieut.-Col. R. R. W.. 23rd Regt. B. N. I.	Europe
1854	Nov.	1.	†Elphinstone, Capt M. W 4th Regt. B. N. I.	Lahore
1861	Jan.	9.	†Erskine, Hon'ble C. J., Bombay C. S.	Bombay
1856	Aug.	6.	*Erskine, Major W. C. B.	Europe
1863	Oct.	7.	Ewart, Dr. J.	Calcutta
1862	Aug.	6.	*Eyre, Col. Vincent, C. B.	Europe
1865	June	7.	Fawcus, Dr. J.	Calcutta
1851	May	7.	Fayrer, Dr. J., B. M. S.	Calcutta
1863	Jan.	15.	†Fedden, Francis, Esq., Geol. Survey.	Calcutta
1865	Aug.	2.	Fenn, S. Esq.	Calcutta
1859	Oct	12.	†Fisher, A. Esq.	China
1860	Mar.	7.	*Fitzwilliam. Hon'ble W. S.	Europe
1865	April	5.	*Fleming, Dr. J. M. 29th P. N. I.	Europe
1861	Feb.	6.	†Forrest, R. Esq., Civil Engineer.	Etwah
1863	Dec.	2.	†Forsyth, Lieut J.	Nagpore
1863	June	3.	†Forsyth, T. D. Esq., C. B.	Lahore
1860	Mar.	7.	†Frere, His Excellency Sir H. Bartle, K. C. B., B. C. S.	Bombay
1861	Sept.	4.	†Fuller, Capt. A. R.	Lahore
1859	Oct.	12.	†Furlong, Major J. G. R..	Agra
1859	Dec.	7.	Futteh Ali, Maulavi.	Calcutta
1849	Sept.	5.	†Fytche, Lieut.-Col. A. 70th Regt. B. N. I.	Rangoon
1866	Jan.	17.	G. M. Tagore, Esq.	Calcutta
1864	Aug.	11.	†Garrett, C. B. Esq., C S.	Chaprah
1859	Aug.	3.	Gastrell, Lieut.-Col. J. E., 13th Regt. N. I., Rev. Survey.	Calcutta

Date of Election.			
1859	Sept.	7.	*Geoghegan, J. Esq., B. C. S. — Europe
1865	June	7.	†Giles, A. H. Esq. — Dinajpore
1842	Sept.	2.	*Gladstone, W. Esq. — Europe
1859	Sept.	7.	*Goodeve, E. Esq., M. D. — Europe
1862	July	2.	Gordon, J. D. Esq., C. S. — Calcutta
1864	Dec.	5.	†Gooroochurn Dáss Bábu. — Jungipore
1862	Feb.	5.	†Gourdoss Bysack, Bábu. — Jahanabad
1863	Nov.	4.	†Gowan, Major J G. — Sirhind Division, Umbala
1859	Dec.	7.	*Grant, Sir J. P., K. C. B. — Europe
1860	Jan.	4.	Grant, T. R. Esq. — Calcutta
1860	July	4.	Grey, Hon'ble W., B. C S. — Calcutta
1866	June	6.	†Gribble, T. W. Esq., B. C. S. — Sasseeram
1861	Sept.	4.	†Griffin, L. Esq., B. C. S. — Lahore
1860	Nov.	7.	†Griffith, R. T. H. Esq. — Benares
1849	Aug.	1.	Grote, A. Esq., B. C S., F. L. S. — Calcutta
1861	Feb.	6.	†Growse, F. S. Esq., B. C. S. — Mynpoorie
1862	Feb.	5.	*Guthrie, Col. C. S., Bengal Engrs. — Europe
1847	June	2.	*Hall, F. E. Esq., M. A., D. C. L. — Europe
1866	Jan.	17.	†Hamilton, Capt. T. C. — Moulmein
1863	June	3.	*Hamilton, Col. G. W. — Europe
1855	Mar.	7.	†Hamilton, R. Esq. — Bombay
1828	Nov.	12.	*Hamilton, Sir R N E., Bart., B. C. S. — Europe
1847	May	5.	*Hannyngton, Col. J. C., 63rd Regt. N. I. — Europe
1859	Oct.	12.	*Hardie, Dr. G. K. — Europe
1866	Nov.	7.	Harendra Krishna Kumar. — Calcutta
1863	Mar.	4.	Hári Dáss Dutt, Bábu. — Calcutta
1862	Oct.	8.	*Harington, Hon'ble H. B. — Europe
1860	Oct.	3.	†Harris, E. B. Esq., C. S. — E I. Railway Rohnee W. Deoghur
1861	Feb.	6.	†Harrison, A. S. Esq., B. A. — Behar.
1864	Nov.	2.	Hatton, C. W, Esq. — Calcutta
1859	Oct.	12.	†Haughton, Lieut.-Col J. C., C. S. I — Julpigorie
1848	May	3.	*Hearsay, Maj.-Gl. Sir J. B , K. C. B. — Europe
1862	Aug.	6.	†Heeley, W. L. Esq., C. S. — Berhampore
1866	April	4.	Henry, N. A. Esq. — Calcutta
1859	Aug.	3.	Henessey, J. B. N. Esq. — Calcutta
1853	July	6.	†Herschel, W. J. Esq., B. C. S. — Midnapore
1854	Mar.	1.	*Hichens, Lieut. W., Bengal Engrs. — Europe
1866	Jan.	17.	Hicks, J. G. Esq. — Calcutta
1860	May	2.	Hobhouse, C. P. Hon'ble B. C. S. — Calcutta
1850	Sept.	7.	†Hopkinson, H. Lieut.-Col. H. — Assam
1863	July	1.	†Horne, C. Esq., C. S. — Mynpoorie

Date of Election.			
1860	Mar.	7.	Hovenden, Major J. J., Bengal Engrs. — Calcutta
1863	Jan.	15.	Howell, M. S. Esq., C. S. — Shajehanpore
1866	Jan.	17.	†Hughes, Lieut. W. G. — Martaban
1866	Feb.	7.	Hoyle, G. W. Esq. — Calcutta
1866	Mar.	7.	†Irvine, W. Esq., C. S. — Muzafernagar
1860	Jan.	4.	†Innes, Major J. J. M. — Lahore
1862	Oct.	8.	Irwin, Valentine, Esq., C. S. — Narail, Jessore
1853	Dec.	7.	†Ishureeprasád Sinha, Bahadur, Rajah. — Benares
1864	Sept.	7.	Jackson, Hon'ble E. — Europe
1861	Jan.	9.	Jackson, Hon'ble L. S., B. C. S. — Calcutta
1841	April	7.	Jackson, W. B. Esq., B. C. S. — Europe
1851	April	2.	Jadava Krishna Singha, Bábu. — Calcutta
1861	Dec.	4.	James, Major H. R., C. B. — Calcutta
1864	Sept.	7.	Jardine, R. Esq., C. S. — Europe
1845	Dec.	3.	†Jerdon, Dr. T. C., M. M. S. — Mussoorie
1866	Feb.	7.	†Johnson, W. H. Esq. — Dehra
1847	June	2.	Johnstone, J. Esq. — Europe
1862	Mar.	5.	*Johnstone, Capt. J, Assistant Commissioner. — Europe
1859	Sept.	7.	Jones, R. Esq. — Europe
1865	June	7.	†Joykissen Dáss Bahadur, Rajah. — Allyghur
1866	Mar.	7.	Kadar Nath Mookerjee. — Bhowanipore
1858	Feb.	3.	Kaliprosonno Singha, Bábu. — Calcutta
1863	July	1.	*Kane, H. S. Esq., M. D. — Europe
1850	April	3.	*Kay, Rev. W., D. D. — Europe
1861	Dec.	15.	†Kempson, M. Esq., M. A. — Bareilly
1862	Jan.	15.	†King, W. Esq., Jr., Geol. Survey. — Madras
1839	Mar	6.	*Laidlay, J. W. Esq. — Europe
1861	Mar.	6.	*Laing, Hon'ble S. — Europe
1863	Sept.	2.	Lane, T. B. Esq., B. C. S. — Calcutta
1851	Dec.	3.	†Layard, Major F. P. — Bhagulpore
1864	Feb.	3.	†Leeds, H. Esq, Conservator of Forests. — Burmah
1852	April	7.	Lees, Major W. N, LL. D. — Calcutta
1859	Dec.	7.	Leonard, H. Esq., C E. — Calcutta
1865	June	7.	†Lewin, Capt. T. H. — Chittagong
1856	Feb.	6.	*Liebig, Dr. G. Von., B. M. S. — Europe
1860	Jan.	4	Lindsay, E. J. Esq. — Calcutta
1861	Nov.	6	†Lloyd, Capt. M. — Tounghoo
1862	Dec.	3	Lobb, S. Esq., M. A. — Calcutta
1835	Oct.	7	Loch, Hon'ble G., B. C. S. — Calcutta
1864	Nov.	2	Locke, H H. Esq. — Calcutta
1866	May	2	†Lovett, Lieut. B. — Punjab
1828	July	2.	*Low, Major-General Sir J., K. C. B — Europe

Date of Election.		
1866 Jan. 17.	†Low, James, Esq., G. T. S.	Dehra Dhoon
1861 April 3.	*Lumsden, Major P. S.	Europe
1854 Nov. 1.	*Lushington, F. A. Esq., B. C. S.	Europe
1866 Mar. 7.	†Macdonall, A. P. Esq.	Monghyr
1866 June 6.	†Macdonald, Capt. J. Staff Corps.	Chandu Division, Nagpore
1848 April 5.	†Maclagan, Lieut.-Col. R., F. R. S. E.	Lahore
1866 Jan. 17.	†Macgregor, Lieut. C.	Buxa
1865 Nov. 1.	Mackenzie, A. Esq., C. S.	Calcutta
1863 Jan. 15.	Maine, Hon'ble H. S.	Calcutta
1860 Jan. 4.	Mair, D. K. Esq., M. A.	Calcutta
1865 Mar. 1.	Malleson, Major G. B.	Calcutta
1862 Sept. 3.	Mallet, F. R. Esq.	Calcutta
1860 July 4.	†Man, E. G. Esq.	Burdwan
1852 Nov. 3.	Manickjee Rustomjee, Esq.	Calcutta
1861 June 5.	†Mán Sinha Bahadur, Mahárajah.	Oudh
1864 Aug. 11.	*Marks, Rev. J. Ebenezer.	Europe
1850 Jan. 2.	*Marshman, J. C. Esq.	Europe
1866 July 4.	Mathews, J. H. Esq.	Calcutta
1863 Oct. 7.	†Martin, T. Esq., C. E.	Gowhatty
1863 Nov. 4.	*McClelland, Dr. J.	Europe
1837 Oct. 4.	†McLeod, Hon'ble D. F., C. B., B. C. S.	Lahore
1860 Mar. 7.	†Medlicott, H. B. Esq., F. G. S.	Gwalior
1861 Feb. 6	†Melville, Capt. A. B., late 67th N. I. Surv. Genl.'s Dept.	Gwalior
1855 Nov. 7.	*Middleton, J. Esq.	Europe
1850 April 3.	*Mills, A. J. M. Esq., B. C. S.	Europe
1847 April 7	*Money, D. J. Esq., B. C. S.	Europe
1856 Feb. 6.	Money, J. W. B. Esq.	Calcutta
1865 July 5.	†Morland, Major J.	Umballa
1854 Dec. 6.	†Morris, G. G. Esq., B. C. S.	Jessore
1864 June 1.	†Moula Bukhsh, Khan Bahadur, Maulvi	Patna
1837 July 5.	*Muir, J. Esq.	Europe
1854 Oct. 11.	Muir, Hon'ble W., B. C. S.	Calcutta
1859 Aug. 3.	†Murray, Lieut. W. G., 68th N. I.	Mussoorie
1862 July 2.	†Napier, His Excellency Major-Genl. Sir R., K. C. B.	Bombay
1860 Nov. 7.	*Newmarch, Major C. D.	Europe
1865 Feb. 1.	†Newul Kishwar, Moonshee.	Lucknow
1852 Sept. 1.	*Nicholls, Capt. W. T., 24th Regiment, M N. I.	Europe
1863 Sept. 2.	Norman, Major F. B.	Calcutta
1863 Jan. 15.	Norman, Hon'ble J. P.	alcutta

Date of Election.				
1860	June	4.	†Oldham, C. Esq , Geological Survey.	Madras
1851	June	4.	Oldham, T. Esq., LL. D., F. R. S.	Calcutta
1864	Dec.	7.	Onslow, D. B. Esq.	Barrackpore
1866	July	4.	Ormsby, M. H. Esq.	Calcutta
1837	June	7.	*O'Shaughnessy, Sir W. B.	Europe
1847	Feb.	10.	*Ousely, Major W. R.	Europe
1864	Mar.	2.	Palmer, Dr. W. J.	Calcutta
1862	May	7.	Partridge, S. B. Esq., M. D.	Calcutta
1860	Feb.	1.	†Pearse, Major G. G.	Madras.
1864	Mar.	2.	†Pellew, F. H. Esq., C. S.	Burrisal
1865	Sept.	6.	†Peppe, J. H. Esq.	Gya
1835	July	1	†Phayre, Lt.-Col. A P , C B.	Rangoon
1864	Nov.	2.	Phear, Hon'ble J. B.	Calcutta
1862	Oct.	8.	†Poolin Behary Sen, Bábu.	Berhampore
1859	Mar.	6.	Pratt, Ven'ble Archdeacon J. H., M.A.	Calcutta
1860	Jan.	4.	Preonath Sett, Bábu.	Calcutta
1825	Mar.	9.	*Prinsep, C. R. Esq.	Europe
1837	Feb.	1.	Prosonno Coomar Tagore, Babu.	Calcutta
1864	Feb.	3.	†Pullan, Lieut. A., G. T. Survey.	Dehra Dhoon
1862	April	2.	Raban, Lieut.-Col. H.	Calcutta
1853	April	6.	Radha Nath Sikdar, Bábu.	Calcutta
1849	Sept.	5.	Rajendra Dutt, Bábu.	Calcutta
1856	Mar.	5.	Rajendalála Mitra, Bábu.	Calcutta
1864	May	4.	Ramánath Bose, Bábu.	Calcutta
1837	Feb.	1.	Ramánath Tagore, Bábu.	Calcutta
1865	July	5.	†Ramsden, Lieut. W. C.	Cawnpore
1866	Jan.	17.	Rattray, A. Esq.	Hidgelee Kar tee
1860	Mar.	7.	†Reid, H. S. Esq.	Oudh
1864	Dec.	7.	†Richardson, R. J. Esq., C S.	Gya
1857	June	7.	Riddell, Hon'ble H. B., B. C. S.	Calcutta
1857	Aug.	6.	†Roberts, Hon'ble A. A., B. C. S.	Panjab
1863	April	1.	†Robertson, C. Esq , C. S.	Nyne Tal
1864	Dec.	7.	†Robertson, E. S. Esq.	Azimghur
1863	May	6.	†Robertson, H. D. Esq., C. S.	Saharunpore
1865	Feb.	1.	Robinson, S. H. Esq.	Calcutta
1847	Dec.	1.	*Rogers, Capt. T. E.	Europe
1866	Dec.	5.	Ross, J. M. Esq.	Calcutta
1859	Sept.	7.	Russell, A. E. Esq., B. C. S.	Hoogly
1865	June	7.	†Sárodáprosád Mookerjee, Bábu.	Baraset
1859	Feb.	2.	Satischunder Roy Mahárajah.	Krishnagur
1856	Aug.	6.	Satyasharana Ghosal, Rajah.	Bhookylas, Calcutta
1861	Dec.	4.	†Saunders, C. B. Esq., B. C. S.	Mysore

Date of Election.			
1864	June	1.	*Saunders, J. O'B. Esq. — Europe
1854	Dec.	6.	†Saxton, Lt.-Col. G. H., F. G. S., 38th M. N. I. — Ganjam
1854	May	2.	Schiller, F. Esq. — Calcutta
1860	Feb.	1.	*Scott, Col. E. W. S. — Europe
1859	Aug.	3.	†Scott, W. H. Esq. — Dhera Dhoon
1866	Jan.	17.	*Seaton, Lieut. G. — Europe
1863	Sept.	3.	Sama Churn Sirkar, Bábu. — Calcutta
1860	July	4.	†Shelverton, G. Esq. — Dhera Dhoon
1866	Sept.	5.	Sherer, Capt. F. S. — Gowhatty
1845	Jan.	14.	*Sherwill, Lt.-Col. W. S., 66th Regiment B. N. I., F. G. S., F. R. G. S. — Europe
1863	April	1.	Showers, Major C. L. — Calcutta
1864	Feb.	3.	Shumbhoonath Pundit, Hon'ble. — Calcutta
1866	June	6.	Sime, J. Esq., B. A. — Calcutta
1864	Sept.	7.	†Sladen, Capt. E. B. — Mandalay
1866	June	6.	†Smart, R. B. Esq. — Assam
1865	July	5.	Smith, D. Boyes, Esq., M. D. — Calcutta
1856	Feb.	6.	*Smith, Col. J. F. — Europe
1866	May	2.	†Soorut Nauth Mullick, Baboo. — Howrah
1854	Sept.	6.	Spankie, R. Esq., B. C. S. — Agra
1864	Mar.	2.	†Spearman, Lieut. H. R. — Yangzaleen British Burmah
1860	May	2.	†Staunton, Major F. S., Beng. Engs. — Darjiling
1843	Sept.	4	*Stephen, Major J. G., 8th N. I. — Europe
1863	Jan.	15.	Sterndale, R. A. Esq. — Calcutta
1863	May	6.	†Stevens, W. H. Esq. — Futtyghur
1863	Sept.	2.	Stewart, R. D. Esq. — Calcutta
1864	April	6.	†Stewart, J. L. Esq. M. D. — Lahore
1861	Sept.	4.	Stokes, Whitley, Esq. — Calcutta
1863	Nov.	4.	Stoliczka, Dr. F. — Calcutta
1843	May	3.	†Strachey, Lt.-Col. R., F. R. S. F L. S., F. G. S. — Bombay
1859	Mar.	2.	†Stubbs, Capt. F. W., Beng. Artillery. — Govinghur Umritsur
1861	Oct.	2.	†Sudderuddin, Moonshi. — Pundooah
1858	July	7.	†Sutherland, H. C. Esq., B. C. S. — Backergunje
1864	Aug.	11.	Swinhoe, W. Esq. — Calcutta
1865	Sept.	6.	Tawney, C. H. Esq. — Calcutta
186b	April	5.	†Taylor, R Esq. — Madras
1860	May	2.	†Temple, R. Esq., B. C. S. — Nagpore
1859	Mar.	2.	†Theobald, W. Esq., Jr., Geological Survey. — Thayet Myo

Date of Election.			
1860	June	6.	Thompson, J. G. Esq. — Calcutta
1863	Mar.	4.	†Thompson, Major G. H., Bengal Staff Corps. — Hazareebaug
1855	June	6.	*Thompson, Dr. T., M. D., F. R. S., F. L. S., F. R. G. S. — Europe
1853	Nov.	21.	†Thornhill, C. B. Esq., B. C. S. — Allahabad
1863	June	4	†Thornton, T. H. Esq. — Murree, Punjab
1847	June	2.	Thuillier, Lt.-Col. H. L., F.R.G.S., Bengal Artillery. — Calcutta
1863	May	6.	Thuillier, Lt. H. R. — Calcutta
1862	July	2.	*Thurlow, Hon'ble T. J. H. — Europe
1865	July	5.	†Tolbert, T. W. H. Esq., C. S. — Panjab
1865	July	5.	Tonnerre, Dr. C. F. — Calcutta
1862	Feb.	5.	†Torrens, Col. H. D. — Saugor
1861	June	5.	†Tremlett, J. D. Esq., C. S. — Goorranualla, Lahore
1863	Mar.	4.	*Trevelyan, Right Hon'ble Sir C., K. C. B. — Europe
1841	Feb.	3.	Trevor, Hon'ble C. B., B. C. S. — Calcutta
1863	Feb.	4.	*Trevor, E. T. Esq., B. C. S. — Europe
1864	Mar.	2.	*Trevor, Lt. E. A. Royal Eng. — Europe
1464	July	6.	†Trotter, Lieut. H. Bengal Eng. — Meerut
1864	Sept.	4.	Tween, A. Esq., Geological Survey. — Calcutta
1863	May	6.	†Tyler, Dr. J. — Etah
1860	May	2.	†Vanrenen, Capt. A. D, late 71st B. N. I. — Lahore
1864	Feb.	3.	†Verchere, A. M., Esq., M. D. — Kohat
1864	April	6.	†Vijayarâma Gajapati Raj Munnia Sultan Bahadur, Maharajah Mirza. — Vizianagaram
1865	Nov.	1.	Waldie, D. Esq. — Calcutta
1861	May	1.	†Walker, Lt.-Col. J. T., Bom. Engrs. — Dehra Dhoon
1863	Dec.	2.	†Walker, A. G. Esq. — Shahapur, Panjab
1863	May	6.	*Wall, P. W. Esq., C. S. — Europe
1863	Oct.	7.	Waller, Dr. W. K. — Calcutta
1863	Dec.	2.	Walters, Rev. M. D. C. — Calcutta
1862	Jan.	15.	†Ward, G. E. Esq., B. C. S. — Dehra Dhoon
1852	July	7.	*Ward, J. J. Esq., B. C. S. — Europe
1859	July	6.	*Warrand, R. H. M. Esq., B. C. S. — Europe
1865	May	3.	Waterhouse, Lieut. J., Royal Artillery. — Calcutta
1854	July	5.	*Watson, J. Esq., B. C. S. — Europe
1847	Nov.	3.	*Waugh, Major-General Sir A. S., C. B., F. R. S., F. R. G. S. — Europe
1862	Oct.	8.	Wheeler, J. T. Esq. — Calcutta

Date of Election.			
1864 Mar.	2.	Wilkinson, C. J. Esq.	Calcutta
1861 Sept.	4.	†Williams, Dr. C., H. M.'s 68th Regt.	Rangoon
1859 Sept.	7.	†Wilson, W. L. Esq.	Beerbhoom
1859 Aug.	3.	†Wilmot, C. W. Esq.	Deoghur
1865 Feb.	1.	†Wilmot, E. Esq.	Delhi
1866 Mar.	7.	†Wise, Dr. J. F. N.	Dacca
1861 May	7.	Woodrow, H. Esq., M. A.	Calcutta
1859 Mar.	2.	*Wortley, Major A. H. P.	Europe
1862 Aug.	6.	Wylie, J. W. Esq., Bambay C. S.	Calcutta
1855 April	4.	*Young, Lt.-Col. C. B.	Europe
1856 July	2.	*Yule, Lt.-Col. H.	Europe

LIST OF HONORARY MEMBERS.

Date of Election.			
1825	Mar.	9.	M. Garcin de Tassy, Membre de l' Inst. — Paris
1826	„	1.	Sir John Phillippart. — London
1829	July	1.	Count De Noe. — Paris
1831	Sept.	7.	Prof. Francis Bopp, Memb. de l' Académie. — Berlin
1831	„	7.	Prof. C. Lassen. — Bonn
1834	Nov.	5.	Sir J. F. W. Herschel, F. R. S. — London
1834	„	5.	Col. W. H. Sykes, F. R. S. — London
1835	May	6.	Prof. Lea. — Philadelphia
1840	Mar.	4.	M. Reinaud, Memb. de l' Instit., Prof. de l' Arabe. — Paris
1842	Feb.	4.	Dr. Ewald. — Cottingen
1842	„	4.	Right Hon'ble Sir Edward Ryan, Kt. — London
1843	Mar.	30.	Prof. Jules Mohl, Memb. de l' Instit. — Paris
1847	May	5.	His Highness Hekekyan Bey. — Egypt
1847	Sept.	1.	Col. W. Munro. — London
1847	Nov.	3.	His Highness the Nawab Nazim of Bengal. — Moorshedabad
1848	Feb.	2.	Dr. J. D. Hooker, R. N., F. R. S. — London
1848	Mar.	8.	Prof. Henry Princeton. — United States
1853	April	6.	Major-Gen. Sir H. C. Rawlinson, K. C. B., F. R. S., D. C. L. — London
1854	Aug.	2.	Col. Sir Proby T. Cautley, K. C. B., F. R. S. — London
55	Mar.	7.	Rájá Rádhákánta Deva, Bahádur. — Brindabun
58	July	6.	B. H. Hodgson, Esq. — Europe
859	Mar.	2.	Hon'ble Sir J. W. Colvile, Kt. — Europe
860	„	7.	Prof. Max Muller. — Oxford
860	Nov.	7.	Mons. Stanislas Julien. — Paris
860	„	7.	Col. Sir George Everest, Kt., F. R. S. — London
860	„	7.	Dr. Robert Wight. — London
860	„	7.	Edward Thomas, Esquire. — London
860	„	7.	Dr. Aloys Sprenger. — Germany
1860	„	7.	Dr. Albrecht Weber. — Berlin
1865	Sept.	6.	Edward Blyth, Esquire. — Europe

LIST OF CORRESPONDING MEMBERS.

1844	Oct.	2.	MacGowan, Dr. J. — Europe
1856	June	4.	Kremer, Mons. A. Von. — Alexandria
1856	„	4.	Porter, Rev. J. — Damascus
1856	„	4.	von Schlagintweit, Herr H. — Berlin
1856	„	4.	Smith, Dr. E. — Beyrout
1856	„	4.	Tailor, J., Esquire. — Bussorah
1856	„	4.	Wilson, Dr. — Bombay
1857	Mar.	4.	Neitner, J., Esquire. — Ceylon

Date of Election.			
1858	,,	3.	von Schlagintweit, Herr H. R.	Berlin
1859	Nov.	2.	Frederick, Dr. H.	Batavia
1859	May	4.	Bleeker, Dr. H.	Batavia
1860	Feb.	1.	Baker, Rev. H.	E. Malabar
1860	,,	1.	Swinhoe, R., Esq., H. M.'s Consulate.	Amoy
1860	April	4.	Haug, Dr. M.	Poonah
1861	July	3.	Gosche, Dr. R.	Berlin
1862	Mar.	5.	Murray, A., Esquire.	London
1863	Jan.	15.	Goldstücker, Dr. T.	London
1863	July	4.	Barnes, R. H. Esquire.	Ceylon
1866	May	7.	Von. Schlagintweit, Prof. E.	Prussia
1866	,,	7.	Sherring, Rev. M. A.	Europe

LIST OF ASSOCIATE MEMBERS.

1835	Oct.	7.	Stephenson, J., Esquire.	Europe
1838	Feb.	7.	Keramut Ali, Saiéd.	Hooghly
1843	Dec.	6.	Long, Rev. J.	Calcutta
1865	May	3.	Dall, Rev. C. H. A.	Calcutta

ELECTIONS IN 1866.

Corresponding Members.

Schlagintweit, Prof. E. Von.	Russia
Sherring, Rev. M. A.	Europe

Ordinary Members.

Major A. S. Allan.	Allahabad
Rev. J. Barton.	Calcutta
Lieut.-Col. D. Brown.	Amherst
J. A. Crawford, Esq., C. S.	Calcutta
*G. M. Tagore, Esq.	Calcutta
Capt T. C. Hamilton.	Moulmein
J. G. Hicks, Esq.	Calcutta
Lieut. W.G. Hughes.	Martaban
James Low. Esq.	Dehra Dhoon.
A. Rattray, Esq.	Hedgellee Kantai
A. Mackenzie, Esq., C. S.	Calcutta
Lieut. G. Seaton.	Tenasserim
N. Daly, Esq.	Myanoung Burma
*Rev. J. Cave Browne.	Calcutta
G. W. Hoyle, Esq.	Calcutta
W. H. Johnson, Esq.	Dehra
Baboo Kadar Nath Mookerjee.	Calcutta
Dr. J. F. N. Wise.	Dacca
W. Irvine, Esq., C. S.	Mozufurnugger
A. P. Macdenall, Esq., C. S.	Calcutta
N. A. Henry, Esq.	Calcutta
H. C. Broderick, Esq., M. D.	Augur West Malwa Cent. Malwa Horse
W. H. Cox, Esq.,	Krishnagur
Lieut. B. Lovelt.	Kohat, Punjab
Baboo Soonut Nath Mullick.	Howrah
W. M. Bourke, Esq.	Calcutta
C. Brounfield, Esq.	Gowhatty
Dr. H. B. Buckle, C. B.	Calcutta
T. W. Gribble, Esq., B. C. S.	Sassereem
Capt. J. Macdonald.	Chanda Division, Nagpore
J. Sime, Esq., B. A.	Calcutta
R. B. Smart, Esq.	Dacca
A. Anderson, Esq.	Fyzabad
J. H. Mathews, Esq.	Calcutta
M. H. Ormsby, Esq.	Calcutta
Capt. F. S. Sherer.	Gowhatty
Lieut.-Col. H. Ballard, C. B.	Calcutta
Kumar Harendra Krishna Bahadoor.	Calcutta
J. M. Ross, Esq.	Calcutta

* Re-elected.

LOSS OF MEMBERS DURING THE YEAR 1866.

By Retirement.

Ordinary Members.

R. B. Chapman, Esq.	Calcutta
Hon'ble A. Eden.	Calcutta
H. Duhan, Esq.	Dehra Dhoon
Baboo Kasinauth Chowdry.	Calcutta
R. L. Martin, Esq.	Dacca
J. C. Stevens, Esq.	Barasat
Dr. A. C. Macrae.	Calcutta
Lieut.-Col. D. G. Robinson.	Calcutta
J. C. Wilson, Esq.	Fyzabad
Capt. G. M. Bowie.	Bhugulpore
Baboo Jadoo Nath Mookerjee.	Rajshaye
J. Strachey, Esq., C. S.	Oudh
J. M. Scott, Esq.	Calcutta
J. C. Sarkies, Esq	Calcutta
Baboo Kaliprasunno Dutt.	Calcutta
Raja Apurva Krishna Bahadoor.	Calcutta
S. Jennings, Esq.	Calcutta
W. T. Dodsworth, Esq	Dehra Dhoon
A. Money, Esq.	Bhugulpore

By Death.

Dr. E. Roer.	Brunswick, Germany
J. G. Medlicott, Esq.	Midnapore
Raja Pratab Chunder Sing.	Pakpara
Calcutta, Right Rev. Lord Bishop of,	Calcutta
J. Obbard, Esq.	Europe.

ERRATUM.

On page 40, line 9, for "only one-fourth of the total of 12 aspirates," read, *scarce one-third of the total.*

LOSS OF MEMBERS DURING THE YEAR 1866.

By Retirement.

Ordinary Members.

R. B. Chapman, Esq.	Calcutta
Hon'ble A. Eden.	Calcutta
H. Duhan, Esq.	Dehra Dhoon
Baboo Kasinauth Chowdry.	Calcutta
R. L. Martin, Esq.	Dacca
C. C. Stevens, Esq.	Barasat
Dr. A. C. Macrae.	Calcutta
Lieut.-Col. D. G. Robinson.	Calcutta
J. C. Wilson, Esq.	Fyzabad
Capt. G. M. Bowie.	Bhugulpore
Baboo Jadoo Nath Mookerjee.	Rajshaye
J. Strachey, Esq., C. S.	Oudh
J. M. Scott, Esq.	Calcutta
J. C. Sankian, Esq.	Allahabad
[illegible] Singh.	Pakpara
Calcutta, Right Rev. Lord Bishop of,	Calcutta
J. Obbard, Esq.	Europe.

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR FEBRUARY, 1867.

The monthly meeting was held on Wednesday the 6th February, 1867, at 9 P. M.

Dr. J. Fayrer, President, in the chair.

The minutes of the last meeting were read and confirmed.

The following presentations were announced.

From Lieutenant-Colonel B. Ford, Superintendent, Port Blair; a box of mineral specimens.

2. From H. B. Webster, Esq., Officiating Collector, Bulandshuhar; a copper plate inscription found in a ruined Gurbee situated in Mouzah Manpore, Pergunnah Agowtha.

Mr. Blanford, on the part of the Rev. Mr. Henderson, exhibited a specimen of printing in a new kind of Arabic type, the invention of the Rev. M. Jules Ferette.

With reference to the type, Mr Blochmann said;—

"The Arabic print, which Mr. Blanford has kindly exhibited, is very interesting, as it is a specimen of a simple but very elegant invention. To print Arabic texts with the vowel points is a matter of some difficulty, as the diacritical points are generally put up in separate rows above and below the text. Mr. Ferette of Damascus has succeeded in printing Arabic texts with the vowel points *in a single line.* This he accomplishes—

1. By omitting unnecessary points, as the *jazm* and the *wasl.*

2. By putting between every two consonants a small joining stroke.

3. By removing the vowel points a little to the left from their positions above or below the consonants, so as to come above or below the joining strokes.

"M. Ferette has now cast types containing both the joining strokes and the vowel points. The joining strokes are of course small, but would not look bad even if they were a little larger, and the removal of the points to the left is rather pleasing, as the consonants also incline to the left, in accordance with the rules of Arabic calligraphy.

"There is only one defect, which, I dare say, could be remedied; viz. in the connected form of the letters *jim*, *he* and *khe*, which in M. Ferette's specimen consist each of 4 strokes instead of 3

"With this exception, the general appearance of the types in question is very pleasing, whilst the decrease of the cost and the saving of labour appear to be so considerable, as to justify the belief that M. Ferette's invention will soon be generally adopted."

The Council reported that they have nominated the following gentlemen to serve in the several Committees in the ensuing year.

Finance.

Colonel J. E. Gastrell.
A. Mackenzie, Esq.
Dr. T. Oldham.

Philology.

Major W. N. Lees.
A. Grote, Esq.
H. Blochmann, Esq.
E. C. Bayley, Esq.
The Rev. J. Long.
C. H. Tawney, Esq.
Baboo Jadava Krishna Sing.
Maulavi Abdul Latif Khan Bahadur.

Library.

A. Grote, Esq.
Major W. N. Lees.
Dr. T. Anderson.
Dr. T. Oldham.

Dr. D. B. Smith.
W. S. Atkinson, Esq.
Dr. F. Stoliczka.

NATURAL HISTORY.

Dr. T. Anderson.
Dr. S. B. Partridge.
Dr. D. B. Smith.
Dr. F. Stoliczka.
Dr. T. Oldham.
W. S. Atkinson, Esq.
W. Theobald Esq., Junior.
A. Grote, Esq.
Baboo Debendra Mullick.

METEOROLOGICAL AND PHYSICAL SCIENCE.

Dr. T. Oldham.
Colonel J. E. Gastrell.
Captain J. P. Basevi.
Dr. S. B. Partridge.
Lieutenant-Colonel J. T. Walker.
D. Waldie, Esq.

COIN COMMITTEE.

Major W. N. Lees.
A. Grote Esq.
Captain F. W. Stubbs.
E. C. Bayley, Esq.

COMMITTEE OF PAPERS.

All the members of the Council.

STATISTICAL COMMITTEE.

Dr. J. Ewart.
C. B. Garrett, Esq.
Lieutenant-Colonel J. T. Walker.
The Hon'ble G. Campbell.

ETHNOLOGICAL COMMITTEE.

Linguistic Section.

Bábu Rájendralála Mitra.
The Hon'ble G. Campbell.
H. Blochmann, Esq.

Major W. N. Lees.
J. Beames, Esq.
Dr. J. Anderson.
H. Beverley, Esq., *Secretary.*

Physical Section.

A. Grote, Esq.
Dr. S. B. Partridge.
Dr. T. Oldham.
Dr. J. Ewart.
Dr. J. Fayrer.
H. F. Blanford, Esq.
Dr. John Anderson, *Secretary.*

Letters from the Hon'ble G. Loch and C. W. Hatten, Esq., intimating their desire to withdraw from the Society, were recorded.

The following gentlemen proposed at the last meeting were balloted for and elected as ordinary members.

Colonel J. C. Brooke.
E. V. Westmacott, Esq.,
Lieutenant-Colonel B. Reid.
A. W. Croft, Esq.
J. A. Paul, Esq.

The following gentlemen were named for ballot as ordinary members at the next meeting.

W. G. Willson, Esq., B. A., Cathedral Mission College; proposed by Mr. H. F. Blanford, seconded by the Rev. J. Barton.

G. E. Knox, Esq., B. C S; proposed by Mr. H. F. Blanford, seconded by the Rev. J. Barton.

The Hon'ble W. Markby; proposed by Mr. Grote, seconded by Mr. Blanford.

Bábu Peary Mohun Mookerjee, M. A; proposed by Mr. Grote, seconded by Mr. Blanford.

Captain H. W. King, Commander P. and O. Service; proposed by Dr. J. Fayrer, seconded by Mr. Blanford.

F. Hill, Esq., Professor of Civil Engineering, Presidency College; proposed by Dr. Fayrer, seconded by Mr. Blanford.

Baboo Jogindro Mullick, Zemindar of Andul; proposed by Baboo Jadava Krishna Sing, seconded by Bábu Rájendralála Mitra.

The following letter from Mr. Thomas on the derivation of Arian Alphabets was read—

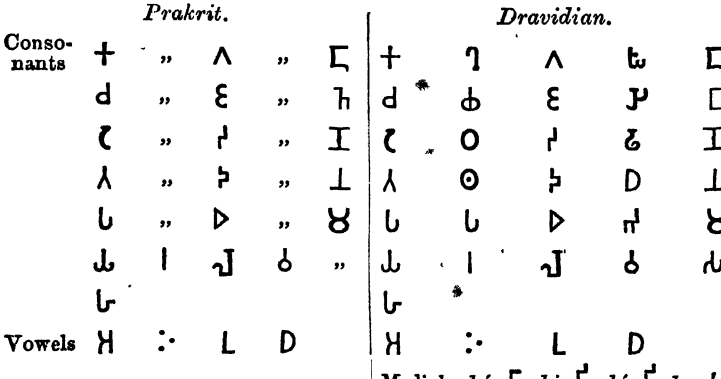
"I am glad to find that my notice of the derivation of Arian Alphabets attracted attention, and I am most curious to learn the course the discussion took at the meeting of the Asiatic Society of Bengal; more especially as I am now following out the Indian section of the enquiry, and have arrived, already, at some unexpected results, tending to confirm the original *Dravidian* derivation of the *Sanskrit* Alphabet. The readers of our Journal will not fail to call to mind that Prinsep, in his early comments upon the Lât alphabet, pointed out that, in many instances, the *aspirate* letters were formed by a duplication of the lines of their corresponding *simple* letters. The question was not raised as to *when* these aspirates had been designed, but the inference was, that they had been formed simultaneously with the simple letters, and out of the same elements. I have a different theory to propose, which I submit for the examination and comments of your members; it is to assume that all the simple letters were Dravidian, and constituted a complete and sufficient alphabet for that class of languages, while the aspirates were later additions required for the due expression of *Mágadhi* and other northern dialects, as the Sanskrit in after times added its own sibilants to the latter alphabet. A glance at the subjoined comparative alphabets will shew the 20 consonants (out of the full 21) of the Dravidian system, as opposed to the 31 consonants of the Prakrit of Asoka's edicts. Of the additional aspirates of the latter scheme, two only can in any way claim to be ordinary duplications; the *chh*, and *ṭh*; while a more simple origin might be sought for the latter in a common circle: *ḍh*, *dh* and *ph* may fairly be taken as intentional modifications of their corresponding normal letters, but *kh*, and *gh*, like *ṭh*, and *th* have more in common as fellow aspirates than association with their own leading consonants; and finally *jh* and *bh* seem to have been unfettered adaptations. The *s* () again differs from the *y* () only in the reversal of the leading lower limb. As the alphabetical data, upon which alone we have now to rely, are derived from inscriptions embodying a different language, and dating so late as B. C. 250, we can scarcely expect to recover the missing Dravidian consonants, but one at least of the vowel tests is significant in the extreme. The Dravidian vowels, as contrasted with the Sanskrit series by Caldwell, arrange themselves as follows:

Sanskrit, a, ā, i, ī, u, ū, ṛi, ṛī, ḷṛī,—, ē, aī,—, ō, aŭ, ṉ, ah.

Tamil, a, ā, i, ī, u, ū, —, —, —, e, ē, eī, o, ō, —, —, —.

" The value of the simple *e*, in the Lât character, admits of no doubt, the outline of the letter takes the form of ▷, while the elongated vowel is constructed by a duplication of the sound, effected by the addition of a medial *e*, thus ¯▷ = *Ee*, apparently the original Dravidian ē, (or possibly eī,) but which, in Asoka's inscriptions, is made to do duty for aī. In the more distinctly Sanskrit adaptations of the Devanagari Bactrian alphabet, the initial A [ꝰ] formed the basis of all the other vowels, whose varying values were discriminated by their several vowel marks.

" I am unwilling to enlarge upon an avowedly speculative suggestion, but I think few will fail to detect the contrast between the archaic crudeness of the simple letters and the more complicated and cursive forms of the aspirates in the Lât alphabet. Had the latter class of characters uniformly followed the typical design of their corresponding simple letters, there would have been more reason to have assumed a simultaneous and congruous initiation; but the introduction of anomalous signs among the *gutturals*, the remarkable cursive development assigned to the aspirates, as opposed to the stiff outline of its simple prototype (an advance equal in degree, but less obviously marked in the *ḍh*, and *dh*,) and the inconsistent development of the *bh*, upon the basis of the old ḍ, all seem to indicate a later and independent elaboration of the aspirates.



Sanskrit additions to the Lât alphabet. ꝺ = ꝺ, ꝸ = ꝸ."

Bábu Rájendralála Mitra said that it was with great diffidence that he ventured to make a few remarks on the letter read to the meeting. The prominent position held by Mr. Thomas as an oriental scholar; his thorough knowledge of the antiquities of this country, and the service he had already rendered to Indian history by his varied and learned researches, claimed for his opinions and theories the highest consideration. His conversancy with Oriental palæography was unrivalled, and anything said by him in regard to it, was sure to command the respect of all. Then again the arguments on which his new theory of the Dravidian origin of Sanscrit writing was based, had not yet been all given out, and, in their absence, it was impossible to discuss the subject in all its bearings without risk of serious mistakes. The few words that he had then to say, were intended, therefore, more to comply with Mr. Thomas's wish to provoke discussion, and to direct attention to such objections as suggest themselves at first sight, in order that truth may be ultimately elicited, than to rebut his theory.

The subject mooted by Mr. Thomas was of great importance, and since his first letter about it was read to the Society in July last, it had engaged the attention of many persons who take an interest in Oriental antiquities. Since the receipt of Mr. Thomas's last letter, he had himself jotted down a few notes, the substance of which he wished to bring to the notice of the meeting. These he would read as follow,—

"The general position laid down by Mr. Thomas is that 'the Arians invented no alphabet of their own for their special form of human speech, but were, in all their migrations, indebted to the nationality amid which they settled for their instruction in the science of writing.' He then instances the *Persian cuneiform*, the *Greek*, the *Latin*, the *Zend*, the *Pehlavi* and the *Devanágari*, as alphabets borrowed by the Arians. It is to the last that I wish to confine myself for the present, as it is to that I have, in my humble way, directed my study for some time.

"It has been said that if the Arians did not elsewhere originate an alphabet, it is not likely that they should do so in India, and that if they always borrowed elsewhere, it is to be presumed that they did so also in this country. But such a line of argument is neither logical nor fair. The Arian race migrated from their cradle at different

times under very different circumstances, and it is not to be supposed that their intellectual condition should remain alike at all times and under all circumstances. As far as we know, the Hellenic and the Teutonic Arians left their common home at a very early period, and the Indians the latest. There would be nothing inconsistent or illogical, therefore, in the supposition that the later colonists went forth in a more advanced social condition than their predecessors, having originated a system of alphabetic writing. But supposing, and most probably such was the case, that they came to India before they had discovered the art of writing, there is nothing to prevent a highly intellectual race from doing so in their adopted country. Indeed the stability of the major of Mr. Thomas is entirely dependent upon the issue of this minor; if it can be shewn that the Hindus did succeed in devising a system of alphabetic writing without borrowing from their neighbours, the general proposition must break down, and the enquiry therefore may, without fear of error, be confined to India.

"Now, in India the Arians came in contact with the Dravidian aborigines, and Mr. Thomas therefore supposes that they must have got their alphabet from those aborigines. But there is not a shadow of historical evidence to shew that those aborigines had a written literature at the time when the Arians came to this country, or for some time after it. Nobody has yet discovered a Dravidian book or inscription sufficiently old to justify such a presumption, nor is there a single tradition extant of there ever having existed a Dravidian literary composition, either sacred or profane, of a pre-Vedic era. The ancient history of the Dravidians, apart from the Arians, is a blank. All that we know of them is from the writings of the Bráhmans, and there we find them to have been the very reverse of a literary race. The races alluded to are the Coles, the Bheels and the Minahs of our day—the rude primitive people who inhabit our woods and wilds, and contend with the tiger of our jungles for a precarious existence. They might have been more civilized before: that some of them owned houses and fortified places, large herds, and stores of gold, is susceptible of proof: but the only source of information accessible to us of these prehistoric times are the Vedas, the oldest Arian records extant, and they describe them to have been, in the days

of the Brahminic Ṛishis, barbarians of the lowest type, and our poets confounded them with monkeys and satyrs—or wild men of the woods—who were not to be included in the pale of humanity. Some of the epithets used in the Vedas to indicate the aborigines are remarkable. The Ṛig Veda describes them as *Mṛidhravâch* or "of imperfect speech." Elsewhere they are said to be *Anâsa* or "mouthless" or "speechless." Some Ṛishis condemned them as "priestless and hymnless, fit only to be slain." In short, if any faith is to be put in the Vedic narratives regarding the social condition of the people of India in primitive times, we must accept the bulk of the aborigines to have been in a state of society in which leaves and bark supplied the place of clothing, the shade of trees served for boudoirs, and hollows and caverns occupied the place of bedrooms. And all this at a time when the Brahmins had lofty houses, fine clothing, gold ornaments, horses and cars, iron implements, divers arts, poets, astronomers and musicians, in short, everything indicating a tolerably advanced state of civilization. Admitting that they had not come to the art of writing, was it likely that their naked neighbours should have come to it? If we trace the growth and history of the Arian colonization in India, we are led to the conclusion that the Arians continued steadily to advance, and the Dravidians to recede and decay. The Arians gradually became the masters of the finest provinces, and the Dravidians partly betook themselves to jungles and mountain fastnesses, partly got incorporated with the intrusive population, and partly submitted to them as bond slaves, living out of the bounds of their cities and owning no property. This degradation, physical and moral, was not a state of things which would help the Dravidians to take the start of the Arians, and devise the means of recording literary composition, which the latter should fail to achieve. It may be said that the Arians reviled the aborigines from a lofty sense of their own superiority, and called them *asiknis* or "blackies," very much in the same spirit in which the roughs among their own conquerors call them "niggers" in the present day, and that they were not the repositories of everything that is vile, as they are described to have been. But it is the very gist of the present enquiry to ascertain the relation of the two races in the scale of civilization, and it would be begging the question to say that the Dravidians originated the art of writing, and the Arians borrowed

it. It would be a mere statement without any reliable evidence to support it, no more than to support the theory that the Sanskrit grammar was elaborated at Taxila and not elsewhere in the Panjab, or even in Brahmavarta.

"Mr. Thomas assumes that the Brahminic Arians first constructed an alphabet in the Arianian provinces out of an archaic type of Phœnician, which they continued to use, until they discovered the superior fitness and capabilities of the local Pali. He states that he has been collecting proofs of this for some time past, and each fresh enquiry more and more confirms his early impression. It is a matter of regret that the published report of his lecture does not give any of his evidences, and I am at a loss, therefore, to know on what grounds he takes the Arian alphabet to have been elaborated in the Arianian provinces before the Brahmins came to India. That alphabet may be a Bactrian adaptation from the Phœnician, but the question is, when did the Brahmans first use it? The oldest Arian record is long subsequent to Buddhism; none that I know of dates before the Pali edicts of As'oka; and there is nothing to bridge over the gap of at least some thirteen hundred years between that time and the period when the Brahmans dwelt in Bactria.

"Then as to the Pali, it is evident that it existed in the country long before the time of As'oka. The different shapes under which the same letters of the Pali alphabet appear at Junaghur and Dhauli are marked and peculiar, and they cannot be accounted for by any candid enquirer, except on the supposition that long usage had brought on local peculiarities. The allusions to alphabetic writing in Pánini and other purely Indian pre-Buddhist authors point likewise to an Indian, and not to a Bactrian alphabet. Again, the oldest Sanskrit inscription that has yet been found is recorded in the Pali (the Junagarh inscription of As'oka) and not in the Arian letters; indeed no Sanskrit inscription has yet been met with in the Arian characters. The Pali, besides, is a vernacular form of the Sanskrit—the first stage in its transition to the Prakrit—and the alphabet used to write it down may more reasonably be taken to be its legitimate vehicle, and not that of the Dravidian, of which no inscription of any kind, either old or new, has yet been discovered in the Pali character. Indeed, I can see no connexion whatever between the Dravidian languages

and the Pali character. The name Pali is derived from the Sanskrit *pâli* a house or *palli* a village, meaning a domestic or village dialect, that is the vernacular, which was not necessarily, nor even probably, Dravidian. But were we to leave all philological proofs aside, and admit the northern Indian vernacular of former days to have been Dravidian, still it must be borne in mind that that name has been recently given to it by Europeans, and therefore it cannot be used as an argument in favour of, or against, the question at issue. Prinsep called the character Lât; had he named it Sanskrit it would have obviated much unnecessary discussion. The giant, in short, is of our own creation, and we can destroy it in any way we like.

"As to the Bactrian, those characters flourished coterminously with the Pali for writing the vernacular in the trans-Indus Provinces, and that too at a time when those provinces were under Bactrian supremacy. It is very rarely met with in the chief seats of the Brahmins, and the natural inference would be, that political influence led to the use of a foreign alphabet in writing down a Sanskritic vernacular—a Sir Charles Trevelyan of the time enforcing a pet system of Bactrianism. The Roman letters are now being used for writing many Indian dialects. Until recently, many up-country Hindus wrote, and indeed even to this day write down their Hindi in Persian characters. I have seen more than one Hindi book printed in Arabic letters. Sheikh Sâdi, the Persian moralist, wrote his rekhtá verses—that is Hindi—in Persian; and well may have Bactrian satraps got the Indian Vernacular of their time written in their own national characters. At any rate the use of the Bactrian to record the Pali edicts of A'soka in the Usafzai country, (and that is the oldest instance of the use of the Bactrian,) can in no way prove the antiquity of the Bactrian higher than that of the Pali, as the medium of writing down Sanskrit.

"One remarkable fact which proves the Brahminic origin of the Pali alphabet is its fullness. It contains a number of letters,—aspirates, sibilants and long vowels,—which no Tamilian language has ever had any occasion to use. Had the alphabet been designed by the Tamils, these would never have been devised. Mr. Thomas, in the letter just read, has accounted for them by supposing that the Dravidians had them not, and that the Brahmins added them to adapt the alphabet to

their use. Had such been the case, there would have been some trace in the formation of the letters to indicate their origin under different states of civilization. Such, however, is entirely wanting. The aspirated letters in the simplicity of their configuration differ in no respect from the surds and the sonants. The one set appears to have been produced by the same intellectual effort as the other, and the two are of character exactly alike. I admit that three out of the ten aspirates, viz. *chh*, *ṭh* and *ph* appear to be duplications or modifications of the surds *ch*, *ṭ* and *p*., but they constitute only one-fourth of the total of 12 aspirates, the rest of which are perfectly independent in design and shape. Mr. Thomas thinks the *bh* to be an inconsistent development upon the basis of the old *d*, but there is no reason to show why the aspirated sonant of the labial class should be formed on the model of the unaspirated sonant of the dental, instead of the same letter of its own class. I cannot therefore admit the argument to be of any value. Again the *s* is supposed to be an adaptation of the *y*, "produced by the reversal of its leading lower limb." But the question remains unanswered, why the *s* should be formed on the model of *y* to which it bears no phonetic resemblance whatsoever, instead of any other letter? The hypothesis in this case involves another difficulty; it assumes that the Sanskrit first coined only one *s* sound, leaving it to be inferred that the other two sibilants were introduced into the language a long time after, when we know for certain that the Sanskrit originally had three sibilants, two of which it lost in the Prakrits. As to the vowels, nothing can be more natural than that the long and the short sounds of the same kind should be indicated by slight modifications of the same figure. I cannot conceive that, to account for them, it is necessary to assume their origin at different times under the influence of different nationalities. Those who can devise a system of alphabetic writing may safely be presumed to have sufficient intelligence to make the same letter do duty for both a long and a short sound by a slight modification.

"One other argument in favour of the Tamilian origin of the Sanscrit alphabet I have now to notice: it is the use of what are called cerebral or lingual letters. It has been said that the Arians never used cerebral letters; we find them not in the Zend, the Greek, the Latin, and the Teutonic; ergo they should not be found in the Sanscrit; but since

they are, they must have been taken from the Tamilians. But the major premise in this argument is not tenable. The cerebral letters used in the Sanscrit are ṛ, r, sh, ṭ, ṭh, ḍ, ḍh, and ṇ. Of these, r and sh are common to all the Arian languages, and that is enough to shew that the general premise is founded on a mistake, and the deduction from it consequently cannot be accepted as true. It is possible some may tell me that by cerebrals Messrs. Caldwell, Norris and Thomas allude to ṭ ṭh ḍ ḍh and ṇ, and not to all the letters of that class. This shifting of the ground would scarcely be fair in argument, but accepting the premises on this narrow basis, I think there is not proof sufficient to support it. We know not whether the old fire-worshippers pronounced their *t* as ट and not त, nor do we know the sound that letter had among the Greeks and Romans, for the Greek as pronounced now is not the Greek that was, and were old Homer to appear among the dons of Oxford or Cambridge, he would be almost as unintelligible to the Porsons of our day, as he would be to the people of this country. Leaving the Zend, the Greek and the Latin as uncertain, if we turn to the Teutonic and the Sclavonic, we find the cerebral consonants by no means unknown. The Low German along the shore of the Baltic has them, and they are dominant in the Scandinavian, the Russian and the Lithuanian. In the English the त is unknown, and, notwithstanding the dictum of grammarians that the English *t* was a dental, it is rarely that an Englishman can pronounce the sound of त. With him ट is the only letter known, and he uses it both for ट and त. Mr. Norris in his paper on the "Scythic Tablets" of Behistun, accounts for the presence of ṭ (ट) in the Scandinavian and the Icelandic, by supposing it to have been borrowed from the Lapp—a Tartar language; but I imagine he will not try to assign to the same cause the origin of the English *t*. Were he to do so, he would have to prove, in the first place, that nations can borrow sounds, and secondly, that the Anglo-Saxons really did so. It is well known that physical and social causes may lead to the loss of certain sounds in a language. The Brahminic Arian originally had a guttural *g*, which the enervating influence of India soon softened down to the modern ग. In our own day, the Persians and Moghals in Bengal lose the guttural ق in the course of a single generation. Aspirates and compound consonants are being constantly

softened down through the agency of that and like causes, and often without any apparent cause whatever. Indeed this tendency in languages to soften and wear out and arrange themselves in new forms, is the chief agency in the formation of new dialects, and with its aid we can easily account for the absence of particular letters in particular languages. But there is no proof, on the other hand, to show that nations can borrow sounds. Professor Bühler of Poonah, in a learned paper on the "Sanskrit Linguals," published in the Journal of the Madras Asiatic Society, justly observes:

"'Regarding the borrowing of sounds, it may suffice for the present to remark that it never has been shown to occur in the languages which were influenced by others in historical times, such as English, Spanish, and the other Romance languages, Persian, &c. Let us consider the case of the English. Though half of its words have been imported by the Norman race, though most of the old Saxon inflections have perished in the struggle between the languages of the conqueror and the conquered, though in some instances even Norman affixes have entered the organism of the original language, the quietism of the Saxon organs of speech has opposed a passive and successful resistance to the introduction of foreign sounds. The English has received neither the clear French 'a,' nor its 'u,' nor its peculiar nasals. On the contrary it has well preserved its broad, impure vowels and diphthongs, and it is now as difficult for the Englishman to pronounce the French 'a,' or 'u,' as it was for his Saxon ancestors eight hundred years ago. But we find still stronger evidence against the loan-theory in the well-known fact, that nations which, like the Jews, the Parsees, the Slavonic tribes of Germany, the Irish, etc., have lost their mother-tongues, are, as nations, unable to adopt, with the words and grammatical laws, also the pronunciation of the foreign language. They adapt its sounds to their own phonetic system, and their peculiarities are recognisable even after the lapse of centuries.'

"In this country the Afghans, the Persians and the Moghals have failed, in seven hundred years, to acquire the peculiarities of the Indian vernacular sounds, and the Hindus, in a like period, have equally failed to utter the Persian ع and ڭ. Other instances may be adduced *ad libitum*, but they are, I believe, not necessary. The point at issue is to show that sounds have been borrowed, and not to prove the negative. I shall

leave the subject, therefore, to those who advocate the loan-theory under notice. I may observe, however, that even if it be possible to prove its possibility, it will make but small progress in supporting the conjecture that the Eastern Arians never had any cerebral letter in their language. The Sanskrit has for its basis between 18 and 19 hundred verbal roots, which, by an ingenious series of inflections, agglutinations, affixes and suffixes, produce the entire vocabulary of the language. Now out of these 1800, 335 roots have the contested cerebral letters; 182 of which have the consonants exclusive of r, 116 end in sh, and 37 in ṛi, or ṛí. If the loan-theory were admitted, it will have to be proved that the Brahmins, though conquerors and the more civilized of the two, had to borrow one-fifth of their verbal roots from the despised aborigines, and that too at a time when the Ṛig Veda hymns were first sung by the ancient Ṛishis. This is a feat which, in the present state of philology, will not be easy of accomplishment."

Mr. Bayley said, that he could not but regret that the whole of the evidence on which the theory of Mr. Thomas was based, was not before the Society. It was of course impossible fully to judge of the merits of that theory until this was the case. Mr. Thomas's propositions were in fact two in number;—1st, that the Aryan race generally, and the Indian branch of it in particular, borrowed and did not invent their alphabets; and secondly, that the particular Indian alphabet, of which the earliest form was that known popularly as the "Lath" character, was borrowed from the Dravidian races which were in occupation of India or part of it, before the advent of the Brahmins. Now he thought, that at least the grounds on which the first proposition was based, were to some extent apparent. It was not, as Baboo Rajendra Lal seemed to suppose, based solely on the argument that the Aryan race having clearly borrowed alphabets in some cases, were necessarily to be considered incapable of originating one for themselves. Rajendra Lal indeed did not deny that the Aryans had borrowed alphabets from the natives whose countries they overran, and one undeniable instance of this action on their part, was their adoption of the arrow-headed character.

As Mr. Bayley understood Mr. Thomas's assumption, however, it was at least based on better ground than Baboo Rajendra Lal imagined;

When a nation already sufficiently organized and powerful to overrun its neighbours, starts on a career of conquest, and, having as yet no alphabet of its own, occupies countries where an alphabet is already established, it was *a priori* improbable that it should take the trouble of inventing one of its own. Of course, it did not follow, as Rajendra Lal pointed out, that because the earlier Aryan hordes possessed no alphabet of their own invention, that this was necessarily the case also with later hordes, issuing from the same stock and the same "nidus," but there was a strong antecedent improbability that a race which certainly at a comparatively late period of the world's history possessed no alphabet, and was then surrounded by neighbours who did, neighbours with whom, by conquest, some sort of intercourse must have been established,—should nevertheless invent rather than adopt an alphabet. Ceasing, however, to argue from pure probabilities, there was, Mr. Bayley thought, some external evidence for concluding that the Lath alphabet was *not* an Aryan invention, but adopted.

It was not the *only* alphabet used by the Aryan race in India: at the earliest date which could be assigned probably to any Lath inscription, there was another character which Mr. Bayley would call the Bactro-Pali, equally well established in Northern India, and employed to express what might be called identically the same language.

In Northern India, including Cabul, it might be said that this alphabet reigned supreme; south of the Jumna on the other hand was the region of the Lath character and its branches. Intermediately between say the Jumna and the Jhelum was a tract of debateable ground, in which however, at the early date above mentioned, the Bactro-Pali certainly predominated on one inscription; and many coins belonging to this tract are however certainly bi-literal, expressing absolutely the same words in both characters.

If it be supposed that a later emigration of the Aryan race, leaving its cradle after the invention of the Lath character, carried it with them to Central and Southern India, one or other of the following two several suppositions must necessarily be accepted; neither of which seemed at all probable in itself or supported by any evidence.

If, for example, it be supposed that the whole of the Indian Aryan branch quitted its original resting-place together, then it must be supposed that one portion abandoned its native alphabet and adopted

one that it found existing, or that, discarding its own alphabet, it arbitrarily invented one totally different, while the rest of the horde, pressing on southwards, retained and cherished their own.

If, on the other hand, the two branches be looked upon as two separate emigrations, one before and one after the supposed invention of the Aryan Alphabet, then we are to suppose that, passing through countries settled by their own race, speaking their own tongue but using an adopted alphabet, the southern branch of the Aryans yet carried to their own remoter settlement, and preserved there, their newly invented character. Improbable as this latter supposition was, it was rendered still more so by the fact that the two alphabets gave expression to identically the same language; and it was not likely that a second emigration, coming forth from its parent root after the lapse of time necessary to perfect the invention and use of an alphabet, and after the great social change effected by the conversion of a spoken into a written alphabet, should carry with it identically the same language as the earlier emigration.

There remained another possible supposition, which had not been noticed by Rajendra Lal, *viz.*, that one or both of the two alphabets were invented by the Aryan race after they reached India. But in the first place, it is impossible to believe that the same people setting about to invent an alphabet, should have invented two totally different, or that if one was borrowed from existing sources, they should set about to invent another while one was existent and ready to hand.

Lastly, as a matter of fact, the Bactro-Pali at least was pretty clearly borrowed: it was closely allied to,—in some forms and in its modes of numeration, almost identical with,—certain Semitic forms of writing of very great antiquity, which were once in use on the shores and in the islands of the Mediterranean.

Practically, therefore, there was located in India an Aryan race, using a language which is in fact common to all its tribes, a fact which may be accepted as showing that they entered India at dates not very remote, or under very different circumstances. Of this branch, the Northern portion, when settled on the road which the rest of the tribes must have traversed on their way towards Central and Southern India, used a borrowed character; and the most probable inference seems to be that the character used by the other is

borrowed also: that, in fact, both adopted the indigenous character which was found already existing in that portion of India in which they settled.

This inference was further strengthened by the fact that both these alphabets, at the earliest date to which we can ascribe their use with any certainty, were not wholly fitted to express all the sounds of the Aryan language which they embodied, and that, in fact, at later dates, we find both characters modified into a more convenient form. Mr. Bayley meant to allude especially to the use of reduplicate and compound letters, which are sparingly and awkwardly combined in the earlier inscriptions, while in later inscriptions (and this is peculiarly the case with the Bactro-Pali) new compounds, nay, it may be said, almost wholly new symbols are gradually introduced. Although therefore the Society had not Mr. Thomas's evidence before it, it seemed at least probable that he was correct, to the extent of assuming that there is no evidence that the Aryan race ever invented an alphabet; but that on the other hand it is certain that they borrowed the alphabets of other nations on more than one occasion, and there is strong presumption that their Indian branch borrowed the Lath character.

But from whom did they borrow it? It was very unfortunate that there was not any portion of Mr. Thomas's case before the Society on this point, nor did the Society know upon what proofs he bases his presumption that the "Lath Alphabet was of Dravidian origin."

On the other hand, the Society are obliged to Baboo Rajendra for the, no doubt, very strong grounds which he had stated for believing that the Dravidian races had no alphabet; nor could Mr. Bayley, so far as his experience went, find any evidence in contradiction of it. Remains presumably belonging to pre-Aryan races were occasionally discovered, but so far as Mr. Bayley was aware, no sort of inscription existed among these. Again, in Southern India, Mr. Walter Elliot reported that, at a comparatively late date, one branch of the Dravidian race maintained itself in independence, and possessed a considerable share of importance, power and wealth. Coins even were attributed to this tribe, but apparently nothing written or inscribed had survived them. Nor, so far as Mr. Bayley was aware, did any purely indigenous Dravidian literature exist; any thing at least of a nature inconsistent with the idea of its being handed down by oral tradition.

So far therefore as the case stood before the Society—it seemed as if, while there was a strong presumption, at least, that the "Lath" character was borrowed by the Aryans and not invented, it seemed at least doubtful if it had a Dravidian origin, and its invention was still obscure.

Mr. Bayley would, however, venture on a guess at a source, from which there was some possibility perhaps that this character had been derived; but, in doing so, he did not venture either to put forth the suggestion with any confidence, nor was it one to the authorship of which he could lay claim. The subject had been touched upon both by the late Sir Henry Elliot and by General Cunningham, and the latter indeed had, he believed, investigated it to some extent, and might possibly give the result of his enquiries to the world.

The great Sanscrit Epic spoke of a race of "Snakes" at enmity with the Aryan race, and indeed allusions to them occur repeatedly elsewhere both in the books and the traditions of the Hindus. Who these Snakes might be, was not the present question; it had been attempted to identify them as Scythian, and for present purposes Scythian was as good a name by which to indicate them, as any other.

Now it was curious that the most Archaic form of the Lath character (as had been pointed out by General Cunningham,) was found on certain coins which bore the emblems and the names known to have belonged to this Snake race. Taking this hint, Mr. Bayley would venture to throw out a few others. The Snake race was not confined to India alone: on the contrary, traces were found of it almost everywhere in the Western part of Asia and in Eastern Europe. The well-known story of Zohak had been supposed to indicate the conquest of Persia, of "Iran" proper, by this Snake race or some wave of it. The subject was a wide one and open to infinite inquiry and research. But the points which were more immediately of interest related to the presence of this race on the northern shores of the Euxine and in the upper parts of Greece. Herodotus, it might be remembered, spoke of the Cimmerians as displaced from mere pressure, on the upper part of the Euxine, by an irruption of Scyths, the offspring of Hercules and a woman half a snake. Again the Νευροι, a tribe allied to the Scythian, were, a generation before Darius, similarly driven away from their original site by Snakes, partly coming from the North, partly bred among themselves; and it was curious that Kadmus, the

traditionary inventor or introducer of the Greek alphabet, was also a slayer of the serpent, that is, was at least in hostile contact with the serpent race; and perhaps the singular legend of the sowing of the serpent's teeth may be explained as an example of a custom, probably of remote antiquity, but of which familiar modern instances were to be found in the institutions of the Janissaries and Mamelukes—the custom, that is, of forming military bodies of male children captured from the enemy in war.

There was on this occasion no time to follow out this subject, nor did Mr. Bayley consider himself justified in anticipating the results of General Cunningham's researches; but he believed that it was probable that these would show a strong similarity, not merely in names, but in customs and religion, as existing in these regions which the western Snakes appear to have trod, with the traces of the same nature which they have left behind in India. And as regarded the Grecian alphabet, without entering into the arguments which had been assigned in support of its Phœnician origin, Mr. Bayley would only remind the Society of the strong impression which the resemblance between the Greek and the Lath alphabet made on the minds of the first decipherer of the latter, the late James Prinsep; and at any rate it was curious that in Greece, as in India, the long vowels and especially the double letters seem to have been added to facilitate the proper expression of Aryan sounds, proving that it was, at least in its first stage, not fully adopted to the requirements of an Aryan language, and was therefore evidently not originally invented to meet these, but was probably borrowed.

Mr. Campbell said that he had supposed Mr. Bayley to speak of the Snake races as distinguished from the early Aryans, in a way which might lead to the supposition that those Snake races were not Aryans. Now the term was chiefly applicable to the Rajpoots and Jats and cognate tribes, and he thought no one could see these peoples and doubt for an instant that they are Aryans of the very highest type. At the same time, these people have not generally had very literary tendencies, and it might be questionable whether they invented an original alphabet. The whole question, however, of the first invention of the alphabet used in India, seemed to him to merge in a much better one, not yet solved, viz. what were the first religious civilizations

in India. If it were the fact, that the early Aryans, with their beliefs in gods descending from above, and in the firm existence of a golden age and a higher state from which man descended, were met by another faith already established in India, by a school holding the doctrine of the progression of races from below upwards, and from which both the Sivite and the Buddhist forms have sprung, then it may be that the earliest Phonetic alphabet was in the possession of this latter school. That the aboriginal Dravidian savages should have invented either the religion or the alphabet, seemed to him to be out of the question. They must have come from some foreign source. The question remained, what was that source?

Mr. Bayley explained that he had used the terms "Scythian" and "Aryan" merely as concise forms of expression, and without any intention of assigning an ethnologic character to the Snakes.

Bábu Rájendralála Mitra was glad to find that Mr. Bayley concurred in the main with what he had said in regard to that part of the question to which he had confined his attention. He was well aware of more than one alphabet having been current in different parts of India, in writing down one language, in the time of Asoka and for some centuries after it, but it did not at all serve to throw any light on the question at issue, viz. the source whence the Arians first got their alphabet. The researches of the learned Dr. Goldstücker had clearly established that Pánini lived many centuries before the age of As'oka, and at his time the art of writing was well known. The root *likh* "to write" (*aksharavinyás'e*) in his *Dhátupátha* was conclusive on the subject, and the question therefore was, what was the alphabet that great grammarian and his predecessors used? was it the Bactrian, or the Pali, or any other which has been replaced by the latter? There were not data sufficient to give a positive answer to this; but he felt no hesitation in giving a negative one, as regards the Bactrian. All northern languages, or rather those of cold regions, are noted for gutturals, aspirates, troublesome combinations of consonants, and distinctions of long and short vowels, which Byron well describes as the

"—— harsh, grunting guttural,
Which we have to hiss, spit and sputter all."

These, when transferred to hot countries, soon lose their sharpness and become soft and sweet. The history of the Sanskrit language

proves this most incontestably: the sharpness and harshness and the peculiar distinctions and combination of sounds of the Vedic dialect are nowhere to be met with in the Sanskrit of the time of Buddha, and the Sanskrit of Buddhá's time was not what it became in the time of Kálidása. It underwent many changes, and most of those changes were dictated by a desire to rub off the asperities of the Vedic language for the sake of euphony.

Now, *a priori*, it would be expected that an alphabet designed for the earlier Sanskrit, or the language as current in the Arianian provinces, would be richer in letters than in one got up in the time of Buddha, for a great deal more stress was laid on minor distinctions of pronunciation in the pre-Vedic and the Vedic, than in later ages; and when the first idea of alphabetic writing is once formed, no nation can be believed to be so slow as not to be able to design a sufficient number of letters to meet all their requirements. The Bactrian is avowedly not so full. Its vowels are few and imperfect, and consonants deficient; and it could not therefore have been originally used for a language most remarkable for its long and short vowels, to which it attached so much importance.

Again, it was unknown in the history of language, that a nation, themselves conquerors, voluntarily gave up an alphabet with which their religion was most intimately associated for many centuries, and adopted an alphabet from a conquered people, because of "its superior fitness." No amount of superiority can have any influence in such cases. But he knew not what the superiority was in the case of the Pali. It was not one of easy writing, for the flowing Bactrian has, in that respect, great advantages over the angular Pali; nor of fulness, for it is avowed that it had no aspirates at all, before the Brahmins adopted it. But were it otherwise, still he doubted if such adoption were possible, after a language had been associated with a particular form of writing for a long time. The English vocalic system was imperfect in many respects, and some of its letters were obliged to do duty for half a dozen sounds, and yet it was not to be for a moment supposed that it would ever be replaced by the most perfect system of writing that is current in the world, the Sanskrit. Besides the Sanskrit was a dead language in the time of Asoka, and had been replaced by the Pali which dropped the aspirates and some of

the sibilants, and rejected the distinctions of long and short vowels; and that, or a little before that, was not the time when the Brāhmins would forsake their ancient alphabet for a foreign one, for the sake of its superior and more perfect system of vowels and aspirates.

Mr. Campbell read a letter from Col. Phayre, Chief Commissioner of British Burmah, inclosing a list of words of the Mon or Talain language of Pegu and Tenasserim, prepared by the very best scholar of that language, the Rev. Mr. Haswell, in accordance with the list of test words sent to Col. Phayre; also promising a similar specimen of the Andamanese language. Col. Phayre added, "The study of the tribes in the hills of Burmah is one of vast interest to the Philologist, to the Ethnologist, and to the Missionary; they may be said to be unknown, at least the majority of them."

Mr. Campbell then said that although he could not pretend to have critically studied the list of Mon words which he had only just received, he could not resist the earliest opportunity of stating that at the very first glance, the first few words in the list seemed at once to establish, he might say beyond the possibility of doubt, a radical connection between the Mon or Talain people and the Sontals and similar tribes to the west of Bengal, whom he had designated as Kolarians. He had recently published a short comparative list of aboriginal words, and Mr. Man had appended to his Sontalia and the Sontals the same model list of test words which had been translated by Mr. Haswell. On comparing these lists, the first four numerals and the first four simple nouns (put first as of the most radical test character) were found to be in fact plainly identical; the only difference, where there is a difference, being of a uniform character, viz. that the shorter vowels of the Sontal words are changed into a broader *o*, *oo*, *oa*, or *au*, thus—

	Sontali.	*Mon.*
One	mi or mia	mooä
Two	bərea	bä
Three	pea or pia	pee or pi
Four	ponca	paun
Hand	ti or tihi	toa
Foot	jang	chang

	Sontali.	*Mon.*
Nose	mu	moo
Eye	me or met	mote
The next higher numerals are.		
Five	monayia	m'some
Six	turui	trow

Five might be doubtful; the sixth seemed to be identical. Above six, the higher numerals seem to be all different So, going on with the list of nouns, although a resemblance might be traced here and there, it was not easily seen; and in fact most of the higher class words were different. He found a resemblance in the pronouns thus—

I.	aing	oa
Thou.	amg	m'na
He	uni	nya

Indeed Mr. Logan in his valuable paper had already recognised a connection in the form of the pronouns.

At first sight it appeared as if the Mon had lost the refined grammatical forms of the Sontals, and had lapsed into a Chinese-like simplicity of grammar, but the whole subject required much study. He found that Col. Dalton also held the opinion that some of the darker tribes of the extreme East of India have probably an affinity to the aboriginal races of Central India. Altogether the study of the eastern tribes, and their connection with those of the West and again with those still farther to the south-east, seemed to open up an almost boundless field of most interesting inquiry.

A letter from Professor Piazzi Smyth, Astronomer Royal of Scotland, was read—

"Herewith I have the pleasure of enclosing you a letter from Sir Walter Elliot, transmitted to me by my friend Colonel Walter Birch, 104th Fusiliers, and requesting your kind assistance in procuring for me a small block of stone, about the size of an ordinary British brick, or an octavo book,* of particular quality, and transmitting the same, if procurable, to Colonel Birch's agents in Calcutta, Messrs.

* In a letter of later date, Professor Piazzi Smyth expresses a desire to obtain a block 6 or 7 inches square and 3 or 4 inches thick, without flaw.—*Ed.*

Grindlay & Co., whom the Colonel kindly promises to advise of its expected arrival and have it sent to me here.

"The reason for going so far, for so small a matter is,—that the stones of this country are too soft, or too large-grained, or too fissured, or too permeable by water: and I hope, from what I have heard of some Indian minerals, to get something supereminent in hardness, fineness of grain, toughness, freedom from fissures and crystallization, and proof against the entrance of water.

"*Corundum* has been mentioned; but that will not do, for though hard enough, it is crystallized, and a lump would probably be only a brittle congeries of small crystals.

"*Basalt* has been mentioned, and if India has basalts like *some* of those in Upper Egypt, viz. excessively fine-grained, tough, compact, and free from fissures and tendency to fissure, over lengths of 8 and 9 inches,—it might do well. The basalts of Scotland are far too coarse-grained and full of fissures.

"A *pudding stone* from Agra that I have seen, contains particles of *jasper*, which promise to be better still, if the original rock of it, the jasper, could be got at. Its colours are red, brown and black, the grain almost infinitely fine, the hardness far above steel; being too, I presume, a sedimentary, argillaceous rock, altered by plutonic heat, I should expect more toughness, freedom fron fissures, and more uniformity than in basalt.

"If too, you can get one example, which will stand all these tests,—I should much like to hear whether more examples perfectly similar could be afterwards procured, and at what price. The purpose is, to form small standard scales of 5 to 10 inches in length, and likely to last unaltered in length and quality for a much longer time than the metals hitherto used for that purpose. Something capable of going down to all posterity, without sensible change, during 5,000 or 10,000 years."

In commenting on the above, the Secretary said he had brought the note before the meeting with a view of soliciting the aid of Members through the medium of the published Proceedings. He would especially note, as promising stones, the jasper of the Sone and Nerbudda valleys, and the Jade, large lumps of which are sometimes to be obtained in the bazaars.

Tho receipt of the following communications was announced—

1. From Dr. A. Bastian of Bremen, a translation of an inscription copied in the temple of Nakhon Vat, in the city of Monasteries, near the capital of ancient Kambodia.

2. From Baboo Gopee Nath Sen, Abstract of the hourly meteorological observations made at the Surveyor General's Office in October, 1866.

The following additions to the Library since the Meeting held in January, 1867, were announced.

Presentations.

*** *The names of Donors in Capitals.*

Annales Musæi Botanici Lugduno-Batavi by F. A. G. Miquel, Vol. II, Fasc. III, IV and V.—The Batavian Society.

Cours d' Hindustani. Discours d'Ouverture du 3 Décembre, 1866, par M. G. de Tassy.—The Author.

Many and great Dangers with Safeguards. Twelve Sermons by G. U. Pope, D. D.—The Author.

Tamil Poetical Anthology. by G. U. Pope, D. D.—The Author.

Tamil Prose Reading-book, by G. U. Pope, D. D.—The Author.

Tamil Grammar, by G. U. Pope, D. D.—The Author.

Lord's Sermon on the Mount in English, Tamil, Malayâlam, Kanarese and Telugu, by G. U. Pope, D. D.—The Author.

Report on the Police of the Town of Calcutta and its Suburbs for 1865-66.—The Bengal Government.

Report on the Survey operations for Season 1865-66.—The Superintendent of the Revenue Survey.

Almanach der Kaiserlichen Akademie der Wissenschaften. Sechszehnter Jahrgang, 1866.—The Academy.

Proceedings of the Royal Geographical Society of London, Vol. X. No. VI.—The Society.

Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften; Philosophisch-Historische Classe; Band 51, Hefte 2, 3; Band 52, Hefte 1, 2, 4: Mathematisch-Naturwissenschaftliche Classe, Jahrgang 1865: 1ste Abtheilung, Nos. 8, 9-10. 2te Abtheilung, Nos. 9, 10. Jahrgang 1866, 1ste Abtheilung, Nos. 1, 2, 3, 4, 5. 2te Abtheilung, Nos. 1, 2, 3, 4, 5.—The Academy.

Denkschriften der Kaiserlichen Akademie der Wissenschaften: Mathematisch-Naturwissenschaftliche Classe. Band XXV.—The Academy.

Archiv für Kunde Oesterreichischer Geschichts-Quellen. Band XXXV. Heft 1, and Band XXXVI, Heft 1.

Register zu den Banden I– XXXIII. des Archivs, and zu den Banden I—IX. Notizenblattes:—The Academy.

Fontes Rerum Austriacarum. Band VII. Abtheilung I.—The Academy.

Register zu den Banden I—XIV. der Denkschriften der Philosophisch-Historischen Classe der K. A. der W. Band I—The Academy.

Cháúpát, Part I. of Akhaya Coomar, translated into Hindustani?—The Translators.

Exchanges.

London, Edinburgh and Dublin Philosophical Magazine and Journal of Science, Vol. XXXII. No. 218.

The Athenæum for November 1866.

Purchases.

Dictionnaire Turc-Arabe-Persan by Dr. J. T. Zenker, Heft 10.

Deutsches Worterbuch by J. and W. Grimm, Part IV. Fasc. 11 and Part V. Fas. I.

Comptes Rendus de L'Académie des Sciences, Nos. 22 and 23, 1866.

Journal des Savants, November 1866.

Revue et Magasin de Zoologie, No. 11 of 1866.

Revue des Deux Mondes, 1st December, 1866.

The Annals and Magazine of Natural History, No. 108, Vol. XVIII.

Reeve's Conchologia, parts 260 and 261 (Tellina and Unio).

The American Journal of Science and Arts, Vol. XLII. No. 126.

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR MARCH, 1867.

The Monthly General Meeting of the Asiatic Society of Bengal was held on Wednesday the 6th of March, 1867 at 9 P. M.

Dr. J. Fayrer, President, in the chair.

The minutes of the last meeting were read and confirmed.

The following presentation was announced.

From the Editor, the "Pandit," a Monthly Journal of the Benares College, devoted to Sanscrit literature, No. 10.

The Council reported that they had elected Baboo Debendra Mullick a member of their body, in place of Dr. D. Boyes Smith, who had resigned.

The following gentlemen, proposed as ordinary members at the last meeting, were balloted for and elected.

The Hon'ble W. Markby.

Baboo Peary Mohun Mookerjee, M. A.

Captain H. W. King.

F. Hill, Esq.,

Baboo Jogindra Mullick.

W. G. Willson, Esq., B. A.

G. E. Knox, Esq., B. C. S.

Captain S. G. Montgomery, whose withdrawal was announced in July 1865, (owing to a mistake of his Agent,) was reinstated in the list of Members.

The following gentlemen were named as candidates for ballot at the next meeting.

Lieutenant-Colonel B. Ford, Superintendent of Port Blair; proposed by Mr. H. F. Blanford, seconded by Mr. Grote.

Major G. Mainwaring; proposed by Mr. Grote, seconded by Mr. Blanford.

Dr. Mohindra Lal Sircar; proposed by Baboo Rajendra Lala Mitra, seconded by Mr. Blanford.

The Hon'ble Nawab Sir Sherif-ul omrah Bahadoor, K. C. S. I. Member of the Legislative Council of Madras; proposed by Moulavi Abdool Luteef Khan Bahadoor, seconded by Dr. Fayrer.

The receipt of the following communications was announced—

1. From D. Waldie, Esq., Experimental Investigations connected with the water supply to Calcutta, Part III.

2. From Dr. C. Macnamara, through Dr. Fayrer, on the intimate structure of muscular fibre.

3. From W. Scott, Esq., On the reproductive Functional Relations of several species and Varieties of *Verbascums*.

4. From Baboo Gopee Nath Sen, Abstract of the Hourly Meteorological Observations made at the Surveyor General's Office in November, 1866.

At the request of the President, Dr. Macnamara read his paper "On the intimate structure of muscular fibre," of which the following is an abstract.

"The muscular system, whether voluntary or involuntary, is composed of an homogeneous substance, the characteristic features of which are, that it contracts in obedience to the nervous force, direct, or reflex. The elements of the contractile tissue, under all circumstances, are arranged so as best to fulfil the mechanical purposes for which it is intended.

"In voluntary muscles there are no such elements as have been described as sarcous particles, but the contractile tissue consists of bundles of contractile fibres, each fibre being composed of two longitudinal bands running continuously from one end of the muscle to the other end, and connected throughout their length by spiral transverse bands, the whole being encased in a sheath of homogeneous tissue. A voluntary muscle therefore consists of a matrix of fibrous tissue, the interstices of which are filled up with contractile fibres such as I have just described; the larger vessels and veins ramifying in the fibrous matrix, but giving off numerous branches which are brought into immediate contact with the contractile tissue.

"It is evident that bands of elastic tissue could not perform the functions required of a muscle: the increase in breadth of the muscles

of a limb in contracting would, under these circumstances, exercise an injurious amount of pressure on the nerves and vessels of surrounding parts. All such anomalies are obviated by the arrangement I have now described; for in contracting, the longitudinal bands must shorten on themselves, drawing the transverse bands into closer approximation, and these at the same time uncoil: each fibre therefore increases in breadth exactly to the same amount which it loses in length, the changes, as in a muscle, being accurately proportioned to one another. It is quite possible that as the longitudinal bands are attached to fixed points at either extremity, the tension or relaxation of the transverse bands would be sufficient of themselves, by acting on the longitudinal bands, to cause contraction or relaxation of the muscle; and I am disposed to favour this idea, because we can thus easily conceive the means by which the remarkably rapid action which muscles are capable of effecting is accomplished; being kept in a state of perpetual tension depending on the action of the spiral bands.

"If this be the minute anatomy of muscle, it displays a source from whence animal heat may be derived. Much of Liebig's theory of the combustion of the hydro-carbons being the chief if not only source of animal heat, is falling to the ground; but in muscle or bone, there is evidence of the existence of forces as capable of engendering heat as combustion, viz. friction, compression, tension and expansion, all necessarily giving rise to molecular motion, and an equivalent amount of heat, quite capable of keeping up the temperature of the blood to a healthy standard.

"It appears also that we may equally well explain the presence of electricity in a muscle, by the play of the forces above enumerated: they must, in fact, when set in motion, induce electrical phenomena, and that independently of the nervous system."

A discussion ensued on the subject of the above paper; after which, on the proposition of the Secretary, the special thanks of the meeting were unanimously voted to Dr. Macnamara for the important communication just read to the meeting.

The following are the additions made to the Library since the meeting held in February last.

Presentations.

*** *The names of Donors in Capitals.*

Rahasya Sandarbha, Vol. III, Nos. 35 and 37.—THE CALCUTTA SCHOOL BOOK SOCIETY.

The Report of the British Association, Bath, 1864.—THE ASSOCIATION.

Sonthalia and the Sonthals.—THE GOVERNMENT OF BENGAL.

Selections from the Records of the Government of India, Foreign Department, No. 51, (Political Administration of Central India for 1865-66.)—THE GOVERNMENT OF INDIA.

Another Copy.—THE GOVERNMENT OF BENGAL.

A list of Waste Land Sales made in Cachar under the new Waste Land Rules, with a map.—THE GOVERNMENT OF BENGAL.

Report of the Committee of the Bengal Chamber of Commerce from May to October, 1866.—THE CHAMBER OF COMMERCE.

Proceedings of the Royal Society of London, Vol. XV, No. 87.—THE SOCIETY.

Zeitschrift der Deutschen Morgenländischen Gesellschaft, Zwanzigster Band, Heft IV.—THE EDITOR.

Descriptive Catalogue of Vernacular Books and pamphlets forwarded by the Government of India to the Paris Exhibition of 1867, by the Rev. J. Long.—THE AUTHOR.

Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften zu Wien,

Philos-histor. Classe; { Band 49, Hefte I, II, III, / Band 50, Hefte I, II, III, IV, / Band 51, Heft I, and / Register zu den Banden 41 bis 50.

Math-Naturw. Classe. 1ste Abth. { Band 51, Hefte III, IV, V, / Band 52, Hefte I, II,

2te Abth. { Band 51, Hefte III, IV, V, / Band 52, Hefte I, II, III,

and Register zu den Banden 43 bis 50.—DIE AKADEMIE DER WISSENSCHAFTEN ZU WIEN.

Denkschriften der Kaiserl. Akademie der Wissenschaften; *Philos. histor. Classe*, Band XIV., *Math. Naturw. Classe*, Band XXIV.—THE ACADEMY.

Archiv fur Oesterreichische Geschichte—
Band XXXIII. Hefte 1, 2
XXXIV. Hefte 1, 2
XXXV. Heft 1.—THE ACADEMY.

Fontes Rerum Austriacarum, II Abth. Band XXIV.—THE ACADEMY.

Atlas der Hautkrankheiten, Lief. V.—THE ACADEMY OF SCIENCES OF VIENNA.

Almanach der Kaiserlichen Akademie der Wissenschaften für 1865.—THE ACADEMY.

Verhandlungen der K. K. Zoologisch-botanischen Gesellschaft in Wien, Band XV.—THE EDITOR.

Philosophical Transactions of the Royal Society of London, Vol. 155, pt II, Vol. 156, part I.—THE ROYAL SOCIETY.

Researches on Solar Physics by W. de la Rue, B. Stewart and B. Loewy, First Series.—THE AUTHORS.

Results of Meteorological and Magnetical Observations made at the Stonyhurst College Observatory.—THE COLLEGE.

Report on the Result of the Administration of the Salt Department, during the year 1865-66.—THE GOVERNMENT OF BENGAL.

Der Meteorsteinfall am 9 June, 1866, bei Knyahinya (Zweiter Bericht), von W. Ritter v. Haidinger.—THE AUTHOR.

Results of twenty-five years' Meteorological observations for Hobart Town, by F. Abbott F. R. A. S.—THE ROYAL SOCIETY OF TASMANIA.

Abhandlungen für die Kunde des Morgenlandes. Band IV. No. 5.—THE SOCIETY.

Proceedings of the Royal Society of London, Vol. XV. No. 88.—THE ROYAL SOCIETY.

Transactions of the Royal Society of Edinburgh, Vol. XXIV. Part II.—THE ROYAL SOCIETY OF EDINBURGH.

Journal of the Statistical Society of London, Vol. XXIX. Part IV.—THE STATISTICAL SOCIETY.

Proceedings of the Royal Society of Edinburgh, Vol. V. No. 68.—THE ROYAL SOCIETY OF EDINBURGH.

Report on the Operations of the Thuggee and Dacoity Department in Native States, by Lieutenant-Colonel C. Hervey, C. B.—THE FOREIGN DEPARTMENT TO THE GOVERNMENT OF INDIA.

A Narrative of the Russian Military Expedition to Khiva under

General Perofski in 1839.—THE FOREIGN DEPARTMENT TO THE GOVERNMENT OF INDIA.

The Pandit, a monthly Journal of the Benares College devoted to Sanskrit Literature, No. 10, Vol. I.—THE EDITOR.

Purchased.

Râs Mâlâ or Hindoo Annals of the Province of Goozerat, by A K. Forbes, 2 Vols.

Ure's Dictionary of Arts, Manufactures and Mines; by R. Hunt, F. R. S., F. G. S., 3 Vols.

Catalogue of Colubrine Snakes in the Collection of the British Museum, by Dr. A. Gunther.

History of the British Empire in India from 1844 to 1862, by L. J. Trotter, 2 Vols.

History of Herodotus translated into English, with copious notes, by G. Rawlinson, M. A., 4 Vols.

Comparative Anatomy and Physiology of Vertebrates, by R. Owen, F. R. S., 2 Vols.

A Dictionary of Science, Literature and Art; by W. S. Brande, D. C. L., F. R. S. L. and the Rev. G W. Cox, M. A., 2 Vols.

The Chinese Classics by J. Legge, D. D., Vols. I. and II. and 2 Parts of Vol. III.

Ballhorn's Grammatography.

Travels in Central Asia, by A. Vâmbéry.

A History of Persia from the beginning of the nineteenth century to the year 1858; by R. G. Watson.

The Record of Zoological Literature; by A. C. L. G. Günther, M. A., M. D., Ph. F. D. R. S, Vol. I.

Icones Zootomicæ mit Originalbeitragen; by J. V. Carus. Erste Halfte oder Tafel I.—XXIII.

The Oriental Races and Tribes, Residents and Visitors of Bombay, 2 Vols.; by W Johnson.

The Quarterly Journal of Science, Nos. I. to XI.

Introduction to the study of the Foraminifera; by W. B. Carpenter, M. D., F. R. S.

La Maha-Bharata by H. Fauche, Vol. VI.

Comptes Rendus de l'Académie des Sciences. Tome LXVII. Nos. 24 and 25.

Revue des Deux Mondes, 15th December, 1866.

The Calcutta Review, No. LXXXVIII. February, 1867.

Histoire Naturelle des Annelides marins et d'eau douce, by M. A. De Quatrefages, Tomes I, II, Parts 1 and 2, with plates.

Catalogue of the Acanthopterygian Fishes in the collection of the British Museum; by Dr. A. Gunther, 2 Vols.

The Architecture of Dharwar and Mysore, by Col. M. Taylor.

The Architecture of Beejapoor, by Col. M. Taylor.

The Kamil of El-Mubarrad: by W. Wright, Part III.

Jacdut's Geographisches Wörterbuch: Erste and Zweite Hälfte. Bog 61-118.

Revue des Deux Mondes, 1st January, 1867

The Numismatic Chronicle and Journal of the Numismatic Society, 1866, Part IV.

The Quarterly Journal of Science, No. XIII

The Journal of Sacred Literature and Biblical record, No. XX. N. S.

Comptes Rendus des Séances de l'Académie des Sciences, Nos. 26 and 27, 1866.

Tables des Comptes Rendus, Premier Semestre, 1866.

Journal des Savants, December, 1866.

The Westminster Review, No. LXI. January, 1867.

The Annals and Magazine of Natural History No. CIX. January 1867.

Exchange.

The Athenæum, December, 1866.

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR APRIL, 1867.

A meeting of the Asiatic Society of Bengal was held on Wednesday the 3rd April, at 9 P. M.

Dr. J. Favrer, President, in the chair.

The minutes of the last meeting were read and confirmed.

Presentations were announced:—

1. From A. Grote, Esq a specimen of *Tregulus Javanicus*.

2. From Dr. J. E. T. Aitchison, a specimen of *Larus Ichthyaetus*, a Sea Gull, shot at Umritsar in the Punjab in May last.

3. From Lieutenant J. Waterhouse, a box of specimens of plumbago from the Sonah mines near Delhi.

4. From Baboo Gour Doss Bysack, a few bricks and a carved Koran stand from the Sat-Gombouj of Bagharhaut.

5. From the Rev. C. H. Dall, 3 photographs of the hairy family at Ava.

6. From Captain J. Anderson, a fragment of stone from the old tomb of Mrs. Mary Hastings at Berhampore with a copy of the epitaph.

7. Mr. Blanford exhibited, on part of Mr. Grote, a few specimens of a curious sponge ("Ragaderos") from the Philippine islands.

8 The Council reported that they have elected H. Blochmann, Esq. a member of the Library Committee.

9. The following gentlemen, proposed at the last meeting, were balloted for and elected as ordinary members:—Major G. Mainwaring; Lieutenant-Colonel B. Ford; the Hon'ble Nawab Sir Sherif ul Omrah Bahadur, K. C. S. I.; Dr. Mohindra Lala Sirkar.

10. The following gentlemen are candidates for ballot as ordinary members at the next meeting :—

Lieutenant E. J. Steel, R. A. of the Revenue Survey, Debroogur, Assam, proposed by Captain H. H. G. Austen, and seconded by Mr. H. F. Blanford.

The Hon'ble F. Glover, proposed by Mr. E. C. Bayley, and seconded by Mr. H. F. Blanford.

Dr. B. N. Hyatt, Civil Surgeon, Ranchee, proposed by Lieutenant-Colonel E. T. Dalton, and seconded by Dr. J. Anderson.

Dr. E. Bonavia, Assistant Surgeon, Lucknow, proposed by Dr. J. Anderson, and seconded by Mr. H. F. Blanford.

Dr. S. C. Mackenzie, proposed by Dr Ewart, seconded by Dr. Colles.

J. A. B. Nelson, Esq. proposed by Mr. A. Grote, and seconded by Mr. H. F. Blanford.

11. Letters were read from E. W. Clementson, Esq. and Captain W. G. Murray, intimating their desire to withdraw from the Society.

12. The receipt of the following communications was announced :—

1. From Babu Gopee Nath Sen, Abstract of Hourly Meteorological observations made at the Surveyor General's Office in December last.

2. From Captain H. H. Godwin Austen, F. R. G. S. Notes on the geological features of the country over the foot of the hills in the Western Bhotan Dooars.

3. From Dr. E. Bonavia, Affinity between the adjutant and the domestic turkey.

4. From Babu Gour Doss Bysack, "Antiquities of Bagharhaut."

13. At the request of the President, Mr. D. Waldie read the following abstract of his experimental investigations connected with the water supply to Calcutta, Part III.

"The object of this communication is to correct a few errors and deficiencies in the former papers, and supply additional information, so as to render the inquiry more complete. It will also direct attention to some points of importance calling for special consideration.

"The general constitution of the Hooghly water, as regards its mineral constituents, is exhibited by two tables, one giving the proportions of these in a way favourable for comparing its variations at different seasons, and another shewing its hardness. Though the water is rather hard during the dry season, the hardness is reduced to a very

small amount by boiling. It is superior in this respect to what can usually be obtained for the supply of towns. The influence of the tides during the hot season was considered in the first communication: the tidal water increases the amount of common salt, but does not very greatly increase the hardness.

"As regards organic matter, numerous observations have been made since the last communication was laid before the Society, partly to meet objections raised against the former results, which objections however may now be considered as withdrawn.

"Further examination of the various waters by oxidation by permanganate of potash has not increased the author's opinion of its value, and two tables are given which it is believed will justify this unfavourable opinion. The first exhibited the very rapid change which takes place in the deoxidating power of many waters both river and tank, this power diminishing within two days to one half, one third, or even less, of its original amount. This is not noticed in the London Reports, probably because the samples having been taken from the street mains, the water is at least two or three days old, after which it changes much more slowly. The oxidation test appears to indicate only certain kinds of impurities,—probably products of fermentation or putrefaction, or even of living vegetable organisms, and it is doubtful if it gives much important information of the quality of these, as the second table shews that General's Tank water (considered the best for drinking in Calcutta) equals in deoxidating power the the water of the salt marsh to the east of the town; and that the water of the Circular canal, which receives the greater part of the sewerage of Calcutta, requires no more oxygen than that of the best tanks.

"The determination of organic matter by weight is the most trustworthy. Care has been taken in all the recent analyses to proceed to the evaporation without delay, but continued observation has also shewn that the results formerly given cannot have been far wrong. The quantity of organic matter in the river water for the months of January and November has in no case exceeded 15 grains per 100,000 grains, or 1.05 grains per gallon. A table is given of the results at all seasons, which distinctly shews the influence of the tides, the quantity of organic matter during flood tide being from one and half to two and half times greater than during ebb tide. Yet the highest

obtained was 2.7 grains per 100,000 grains, or rather less than 2 grains per gallon.

"Another table exhibits the amount of organic matter in the water of the Salt Water Lake and Circular canal. On the 18th February the water of the marsh contained only 6.5 grains per 100,000 grains or 4.55 grains per gallon. A calculation made on data supplied by Mr. Leonard (reduced to one half on account of uncertainty) or 5000 ft. per second of water flowing in the river at the minimum, shew that though Mr. Clark's supply of 6,000,000 gallons of water per day flowed into the river in as concentrated a state of impurity as the filthiest ditches of Calcutta during the hot season, it would add of organic matter to the river water only to the extent of 5 or 6 hundredths of a grain per gallon. The allowance is extravagant, yet the addition is but small.

"Trials for Ammonia, exhibited in tables, shew that the water during the cold season is at its purest, and other observations on the organic matter are confirmatory of those previously made.

"Further observations on the tank waters confirm the conclusions formerly drawn. Additional samples have been examined in the northern part of the town, with reference to a tank proposed to be excavated there by the Municipality. All the tank waters examined, except those of the Maidan tanks and Dalhousie Square Tank, contained much more saline matter and were much harder both before and after boiling than the river water at its worst (except as regards salt during flood tide in May and June,) and contained much more organic matter,—two, three, or four times as much. The water of the street aqueduct (from the river) was greatly superior in every respect. Water obtained from temporary wells dug for the purpose was carefully analysed and found to be simply sewage water, deprived of the greater part of its bad smell by passing through the earth; indicating that the soil is more or less penetrated by sewage water all over the town.

"Further consideration had been given to the nature of the organic matter, confirmatory of former observations. The organic matter in the river water during the rainy season was analagous to that of tank water, and contained a larger proportion of vegetable matter than that of the dry season. But it by no means followed that it was less

objectionable. When partially separated from saline matter, its general properties more resembled those of animal excrementitious matter, while those of the dry season water more resembled urinous secretions. The rainy season water also seemed to contain much more living germs.

"As to the question of taking water from Cossipore, it may be said that it would scarcely be advisable to do so, as there can be no doubt of the influence of the tide rendering the water impure: whether a point nearer than Pultah would be suitable, could only be determined by observations during the hot season. But there is a point of greater importance to consider, namely the state of the river water during the rains, especially during the early part of the season. The water then contained the sewerage of thousands of square miles of country, and was much more putrid and offensive than even the flood tide water of the hot season; and besides contained a large quantity of mud in a very fine state of division, very difficult to get rid of either by subsidence or filtration; and this water cannot be avoided by taking it from Pultah. The greater impurity of river waters during floods is a fact well recognized in England, and here we have all the floods of the year concentrated into one great flood. The Engineer to the Municipality had taken into account the unusual quantity of mud in the water at this season, and had made arrangements intended to obviate the difficulty: but there is great reason to fear that these measures will be very inadequate for the purpose, and that the large covered reservoirs will, during the early months of the rains, supply water of a very offensive character, and perhaps taint it for a considerable time afterwards. There is no evidence in the Engineer's Report that the extent of the difficulty has been appreciated or even properly understood, or that the efficiency of the means to remedy it has been satisfactorily ascertained."

Library.

The following additions were made to the Library since the meeting held in March:—

*** *The names of Donors in Capitals.*

Presentations.

Jahrbuch der Kaiserlich Koniglichen Geologischen Reichsanstalt. —Vol. XV, XVI.—The K. K. Geol. Reichsanstalt.

The History of India in Urdu, No. 9.—THE SCIENTIFIC SOCIETY OF ALLYGURH.

Professional papers on Indian Engineering, No. 14, Vol. IV.—THE EDITOR.

Annual Report of the Trustees of the Museum of Comparative Zoology at Harvard College 1865.—THE TRUSTEES OF THE MUSEUM.

Report of the Superintendent of the Coast Survey of the U. S. 1859 and 1860.—THE UNITED STATES OF AMERICA.

Proceedings of the Boston Society of Natural History for 1864.—THE BOSTON NATURAL HISTORY SOCIETY.

Conditions and Doings of the Boston N. H. Society for 1864.—THE BOSTON NATURAL HISTORY SOCIETY.

Documents of the United States Sanitary Commission, 3 Vols.—THE U. S. SANITARY COMMISSION.

Annual Report of the Board of Regents of the Smithsonian Institution for 1864.—THE INSTITUTION.

Memoirs of the Geological Survey of India, Vol. V. pt. 3.—THE GOVT. OF BENGAL.

Catalogue of the Organic Remains belonging to the Cephalopoda in the Museum, Geological Survey of India, Calcutta.—THE GOVT. OF BENGAL.

Catalogue of the Meteorites in the Museum, Geological Survey of India, Calcutta.—THE GOVT. OF BENGAL.

A Narrative of the Russian Military Expedition to Khiva under General Perofski in 1839.—THE GOVT. OF BENGAL.

Notes on the Geographical, Statistical and General condition of Purgunna Palamow, by Major G. H. Thompson.—THE GOVT. OF BENGAL.

Report on the Registration of Ozone in the Bombay Presidency for 1864-65.—THE GOVT. OF BENGAL.

Ueber ein Fragment der Bhagavati, 1st part, by Prof. A. Weber.—THE AUTHOR.

Selections from the Records of the Bombay Government, No. CI. New Series (Extract of the Proceedings of the International Sanitary Conference of 1866.)—THE GOVT. OF BOMBAY.

Annual Report of the Administration of the Madras Presidency for 1865-66.—THE GOVT. OF BENGAL.

General Report on the Administration of the Bombay Presidency for 1865-66.—THE GOVT. OF BENGAL.

Report on the Administration of the N. W. Provinces for 1865-66. —The Govt. of Bengal.

Annual Report on the Operations of the Post Office of India for 1865-66.—The Govt. of Bengal.

Report on the Administration of the Central Provinces for 1865-66. —The Govt. of Bengal.

Annual Report of the Administration of Coorg for 1865-66.—The Govt. of Bengal.

General Report on the Administration of the Punjab Territories for 1865-66.—The Govt. of Bengal.

Annual Report on the Administration of Mysore for 1865-66.—The Govt. of Bengal.

Report on the Administration of the Penal Settlement of Port Blair and Andaman Islands for 1865-66.—The Govt. of Bengal.

Annual Report on the Administration of the Straits Settlement for 1865-66.—The Govt. of Bengal.

Six Copies of Papers relating to the Aboriginal tribes of the Central Provinces left in MSS. by the late Rev. S. Hislop, edited by R. Temple, C. S. I.—The Editor.

Six Copies of the Gazetteer of the Central Provinces, part 1.—The Chief Commissioner of the Central Provinces.

Proceedings of the Royal Institution of Great Britain, Vol. IV, parts VII and VIII.—The Royal Institution.

The journal of the Royal Asiatic Society of Great Britain and Ireland, New Series, Vol. II, pt. II.—The Royal Asiatic Society.

Sitzungsberichte der Konigl. Bayer. Akademie der Wissenschaften zu München, 1865, II, Hefte III and IV; 1866, I, Hefte I, II, III, IV, and II Heft I.—The Academy of Sciences, Munich.

Abhandlungen der Philos. Philologischen Classe der Königlich Bayerischen Akademie der Wissenschaften, Vol. X, Abth. 3, Vol. XI, Abth. 1. Historische Classe, Vol. X, Abth. 2.—The Academy of Sciences, Munich.

Proceedings of the Royal Society of London, Vol. XV, No. 89.—The Royal Society.

Journal Asiatique, 6th Series, Vol. VIII, Nos. 29, 30, 31.—The Asiatic Society of Paris.

General Report of the Administration of the Bombay Presidency for 1864-65.—THE GOVT. OF BENGAL.

Annual Report of the Geological Survey of India for 1865-66.—THE GOVT. OF BENGAL.

Annual Report of the Administration of the Province of Oudh for 1865-66.—THE GOVT. OF BENGAL.

Discours d'ouverture du 4 Décembre 1865, by M. G. de Tassy.—THE AUTHOR.

The policy of the Future in India. A letter to the Right Hon'ble Lord Cranborne, by W. Knighton, LL. D.—THE EDITOR.

Entwicklung der Ideen in der Naturwissenschaft. Rede in der öffentlichen Sitzung der. k. Akademie der Wissenschaften am 25 Juli 1866. By Justus, F. von Liebig.—THE AUTHOR.

Die Bedeutung moderner Gradmessungen. Vortrag in der öffentlichen Sitzung der. k. Akademie der Wissenschaften am 25 Juli, 1866. By Dr. C. M. Bauernfeind.—THE AUTHOR.

Die Gottesurtheile der Indier. Rede gehalten in der öffentlichen Sitzung der konigl. Akademie der Wissenschaften, am 28 Marz, 1866. By Emil Schlagintweit.—THE AUTHOR.

Report of the Administration of the Province of British Birma for 1865-66 —THE GOVT. OF BENGAL.

Report of the Administration of the Hyderabad assigned Districts for 1865-66.—THE GOVT. OF BENGAL.

Report of the Proceedings of the Government of India in the P. W. Department for 1864-65.—THE GOVT. OF BENGAL.

Narrative of the course of Legislation during the year 1865-66.—THE GOVT. OF BENGAL.

Exchange.

The Athenæum, January 1867.

Purchase.

The Edinburgh Review, January 1867.

Revue des Deux Mondes, 15th January, 1867, and 1st February, 1867.

Revue et Magasin de Zoologie 1866, No. 12.

Comptes Rendus de l'Académie des Sciences, Vol. LXIV. Nos. 1, 2, 3, 4 and 5.

Hewitson's Exotic Butterflies, part 61.

Grimm's Deutsches Wörterbuch, Band V, Liefc. V.

The Annals and Magazine of Natural History, No. 110, Feby. 1867.

Journal des Savants, January 1867.

The Quarterly Journal of the Geological Society, No. 89.

Notices et Extraits des Manuscripts de la Bibliothèque Impériale et autres Bibliotheques, Vol. XX, Nos. 1 and 2 and XXI, No. 2.

Abhandlungen für die Kunde des Morgenlandes herausgegeben von der Deutschen Morgenländischen Gesellschaft, Band IV. No. 5.

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR MAY, 1867.

The Monthly General Meeting of the Asiatic Society of Bengal was held on Wednesday, the 1st instant, at 9 P. M.

Dr. J. Fayrer, President, in the chair.

The minutes of the last meeting were read and confirmed.

Presentations were announced—

1. From the Chief Commissioner of the Central Provinces :—

Six copies of a set of papers on the Central Provinces, left in manuscript by the late Rev. S. Hislop.

2. From Mr. Temple, six copies of the Central Provinces Gazetteer, P. I.

The following gentlemen, proposed and seconded at thel ast meeting, were balloted for and elected as ordinary members :—

Lieut. E. J. Steel.
The Hon'ble F. Glover.
Dr. B. N. Hyatt.
Dr. E. Bonavia.
Dr. S. C. Mackenzie, and
J. A. B. Nelson, Esq.

The following gentlemen are candidates for ballot as ordinary members at the next meeting :—

Lieutenant J. Gregory, Deputy Commissioner, Naga Hills, proposed by Lieutenant J. Williamson, seconded by Dr. J. Anderson.

The Right Rev. Dr. Milman, Lord Bishop of Calcutta, proposed by the Ven'ble Archdeacon J. H. Pratt, seconded by the Hon'ble C. B. Trevor.

William Duthoits, Esq. C. S., proposed by the Hon'ble G. Campbell, seconded by R. Spankie, Esq.

John Middleton Scott, Esq., A.B., C.E., &c., Assistant Professor of Engineering, Presidency College, proposed by V. Ball, Esq., seconded by M. H. Ormsby, Esq., for re-election.

Bábu Obhoy Churn Mullick, Roy Bahadur, Deputy Collector, proposed by Bábu Gour Doss Bysack, seconded by the President.

The following gentlemen have intimated their desire to withdraw their names from the Society :—

W. H. Stevens, Esq.
H. Leeds, Esq., and
J. H. Mathews, Esq.

3. Read the following letter from Coowar Mohendra Narain Deb.

"*Sobhabazar, Rajbaree, 23rd April*, 1867.

"*To the Secretary to the Asiatic Society.*

"DEAR SIR,—With feelings of the deepest sorrow, I beg to announce to you the melancholy intelligence of the death of my father Rájá Sir Rádhákánta Báhádur, K. C. S. I. A telegram from Brindábana *viâ* Muthra, dated the 20th instant, has brought the heart-rending news that the Rájá breathed his last at noon on the 19th instant. The information I have as yet received regarding his last illness is imperfect."

In moving the following resolution on part of the Council, the President said—

"GENTLEMEN,—Since our last meeting we have received the melancholy intelligence of the death of one of our most distinguished members. On the 19th of last month, Rájá Sir Rádhákánta Deva Báhádur, a Knight of the Star of India, an oriental scholar of the highest attainments, and a leader of all that was enlightened and distinguished in native society in Bengal, died at the advanced age of 85 years, at the ancient city of Brindábana where (as I am informed) he had retired, to pass some portion of the close of his long and useful life in repose and meditation. The loss of this distinguished man, who was so highly revered throughout Bengal, is lamented not only by his relatives and countrymen generally, but by this Society and by many European friends, who had learned not

only to admire the erudition of the great oriental scholar, but to respect the perfect character of the Bengali gentleman.

"I feel quite incompetent to do justice to the many virtues of one who was so universally respected, never having had the advantage of his personal acquaintance; but it is not the less incumbent on me, representing for the occasion the Asiatic Society of Bengal, to bear its testimony to the exalted merits of the great and good man whose loss, as an honorary member, we have now to deplore. I therefore beg to propose the following resolution on the part of the Council of the Asiatic Society:—

"That this meeting desires to record an expression of its deep and sincere regret at the death of the Rájá, Sir Rádhákánta Deva Báhádur, K. C. S. I, an accomplished and distinguished scholar, whose eminent services to the cause of oriental literature during half a century, were, in March 1855, especially acknowledged by his election as an honorary member of the Society."

Bábu Rájendralála Mitra, in seconding the resolution, said, "It is a source of great satisfaction to me to find that the Council has recommended to the favourable notice of the Society the resolution which you have moved, to commemorate the services of a countryman of mine, and one whom I had the privilege to call a friend for the last five and twenty years. It is in every way worthy of this, the oldest Asiatic Society, which was the first to lay open the storehouse of the Oriental classics to the scholars of Europe, and it is worthy of the great man to whose memory it is devoted. Rájá Rádhákánta is no more; he is gone to an unknown region of spirits, where human praise can be of no avail to him; but we do well to express our respect for scholars who, like him, have laboured long and successfully in the field of Indian literature. It is a premium on merit which is sure to promote the object of this Society.

"The literary life of Rájá Rádhákánta extends over a period of sixty years. He was born in the year 1784, and early evinced a strong love of reading and of knowledge, and care was taken by his worthy father to provide for him an education befitting his high rank and social position. According to the custom of the time, his first attention was drawn to the Persian and Arabic languages; but he subsequently studied most thoroughly the Sanskrit, the English and the

vernaculars,—Hindi, Urdu, and Bengali. His ancestors were noted for their devotion to the British nation under which they had lived and thrived; and, following their footsteps, he attached himself to some of the leading Englishmen of his time, whose example exercised the most salutary influence on his whole life. Among them were Colebrooke, Wilson and David Hare, who had formed a Society for the extension of school education in this country, and he was appointed its Honorary Secretary. In this capacity he felt the want of good school books, and at once set himself to supply the desideratum. The Primers and Readers which he then compiled were the first of the kind in our language, and they have been the model upon which all others have subsequently been formed. The want of education for our females also attracted his notice at this time; and in the language of the late Hon'ble Mr. Bethune, to him 'belongs the credit of being the first native of India, who, in modern times, has pointed out the folly and wickedness of allowing women to grow up in utter ignorance.' A number of schools, both for boys and girls, were established under his care, and the little pupils used annually to assemble in his palatial residence at Shobhábázár to pass examinations and receive prizes. Indeed, what he did in those days in Bengal for female education, has never been attempted since. He was also instrumental, in conjunction with the late Sir Edward Hyde East, in the establishment of the Hindu College, which has done so much for the social, moral and intellectual advancement of the people of this country. He was appointed one of the governors of the Institution, and in that capacity took a deep interest in its welfare for near forty years. Although not born a Kulin, and therefore not of the aristocracy of the country according to Indian notions, his alliance by marriage, and the office which his grandfather held in the time of Lord Clive, as the head of the *Játimálá Káchári* or the Court for the settlement of disputes regarding caste, gave him great influence among his countrymen, and for thirty years he held the leadership of the Hindus of Bengal. Gentle, frank and affable by nature, and possessed of excellent address, he won the good will and admiration of all who came in contact with him, and never created an enemy. Sir Lawrence Peel, Chief Justice of the late Supreme Court, used to say of him that 'he was a pattern of gentlemanliness which we would all do well to imitate.'

"He was a Hindu, and lived and died in firm faith in his Maker as taught in the religion of his forefathers. This may have made him appear as an obstructive in the way of those of his countrymen who yearned for speedy reformation in matters relating to religion and caste; but he never opposed any measure with the bigotry of a partizan, and if sincerity be a virtue, he had it to perfection.

"It is, however, not by reference to his social and moral qualities that I wish to support his claim to our respect. It is as the author of the great Sanskrit Encyclopædia, the *Sabdakalpadruma*, that he distinguished himself most, and claims our regard. In bulk that work extends to eight folio volumes of about a thousand pages each, and it took up the best portion of the Rájá's life for its completion. When Ferdusi completed his Sháhnámah, he said: *Basi sál burdam basar nám ranj*, 'for thirty years have I borne labours innumerable to complete my work.' But Ferdusi was born in poverty, and depended on his song for his bread; Rájá Rádhákánta was the son of one of the richest men in the town, and was surrounded by wealth and luxury on every side. He had, therefore, to overcome the influence which great wealth, high position, and want of official occupation exercise on young men just entering life in this country. But he possessed a strength of mind not unequal to the task he had set before him, and he devoted near forty years of his life in compiling his great work. In Europe where all works of reference are easily procured and in print, and every assistance is at hand, such a lexicon as the *Sabdakalpadruma* would have secured the highest honours to its author. In India fifty years ago no such advantages were available; the Rájá had to collect his materials from the most inaccessible sources; he had to pore over musty manuscripts and illegible scribblings on palm leaves, which alone contained his text, and he had to become his own type-founder, printer, and press-reader, before he could send forth a single page of his work to the public. The labour he had to undergo in these occupations was immense, and that it bore good fruit is evident from the manner in which it was received by scholars in Europe, and the honours which were showered on him by princes and learned bodies to mark their high sense of its value. The Czar of Russia and the King of Denmark sent him medals, and the Imperial Academy of St. Petersburgh, the Royal Academy of

Berlin, the Kaiserliche Academie of Vienna, the Royal Asiatic Society of Great Britain and Ireland, the Société Asiatique of Paris, the Oriental Societies of Germany and North America, and the Royal Society of Northern Antiquaries sent him their diplomas, and elected him their honorary or corresponding member; and last, though not least, our own Gracious Sovereign bestowed on him the Star of India in recognition of his exalted merits. The Rájá is now dead, but, to quote an American orator, "Death has not surprised us by an unseasonable blow. It has cast its shroud only over mature years, over long protracted literary service, and over life when the ends of living had been accomplished." But the great work of the Rájá remains, and as long as a taste for Sanskrit literature shall endure, so long we may confidently say, *monumenta manebunt.*"

5. The Council reported that they have adopted the following report of the Philological Committee recommending to introduce the Jonesian System of transliteration in spelling oriental names in the Society's Journal and Proceedings:—

"The Philological Committee of the Asiatic Society, having taken into consideration a proposition of Bábu Rájendralála Mitra, referred to them by the Council, for the adoption of a uniform system for the romanising of oriental words in the Journal, beg to report that it is highly desirable that the system recommended—that of Sir William Jones as modified by Professor H. H. Wilson—should be adopted.

"They are of opinion, however, that before enforcing it as regards contributions to the Journal, it would be well to print a Key to the system, and to circulate it for the information and use of contributors.

"As regards the linguistic vocabularies, the Committee recommend that those that have been already received, should be returned to their authors with a copy of the Key to have them revised and put into one uniform system of spelling; and all future contributions of the kind should be treated in the same way.

"Copies of the Key should also be sent to Government, with a request that they may circulate them among those who have been called upon to co-operate in carrying out the proposed ethnological congess.

"Further, with a view to get the system generally adopted, the Council should place itself in communication with the Punjab and the Nagpúr branches of the Society, as also with the Bombay and the Madras Branches of the Royal Asiatic Society of Great Britain and Ireland, and ask their opinion and co-operation.

"By order of the Committee,

"RÁJENDRALÁLA MITRA,

"*Secy. Phil. Comtee. Asiatic Society.*"

ASIATIC SOCIETY'S ROOMS,

27th March, 1867.

The Council recommended the election of H. B. Medlicott, Esq., F. G. S., in place of Colonel J. E. Gastrell, as member of the Council and Honorary Treasurer of the Society;—of M. H. Ormsby, Esq., LL. B: C. E., in place of H. F. Blanford, Esq., as a member and Honorary Secretary;—and of Mr. Justice Phear and Coowar Harendra Krishna, in place of the Hon'ble G. Campbell and Dr. T. Oldham, as members of their body.

The receipt of the following communication was announced:—

From F. Hill, Esq. C. E. on the newly invented steam engine of Mr. R. W. Thompson.

At the request of the President, Bábu Gour Doss Bysack read his paper on the antiquities of Bagarhat of which the following is an abstract:—

The village of Bágarhat is situated 30 miles to the N. E. of Khulneah in Jessore. Four hundred and fifty years ago it was the seat of a collectorate or tehsildári, at the head of which was one Khán Jehán a Pathán nobleman of distinction. He greatly improved the place and erected many stately edifices, of which only two now remain, a tomb and a mosque. The former is a brick building 48 feet square and surmounted by a magnificent dome. The floor of the chamber is inlaid with encaustic tiles, and the gravestone—a large slab of Jeypur marble—bears date A. D. 1458. Close by it is a small grave which holds the mortal remains of one Pír Ally, a convert to Mahomedanism, who out-casted certain brahmins whose descendants are to this day known by the name of Pírállis. Close by this tomb there is a large tank, containing a number of tame crocodiles, whose blessings are sought by thousands

of sick and childless people every year. Three miles to the south of the tomb, stands a large mosque called the *Sáṭgumbaj* or "the mosque of 60 domes." It is an oblong building, 144 feet by 96 feet, having sixty pillars of brick and stone and 77 domes on the roof. The floor is paved with encaustic tiles. At the end of the paper there is short account of a curious physical phenomenon, being a series of sounds as of distant guns which are heard at Bágarhat and all along the mouth of the Gangetic delta to Bakergunge. After storms and during calms the sounds are said to be the loudest. Some suppose it to be the result of the surf breaking with force on a low beech, but the Bábu believes it to proceed from some subterranean cause.

At the request of the President Mr. Hill read his paper.

Proposed by Dr. Partridge and unanimously carried, that the thanks of the Seciety be given to Bábu Gour Doss Bysack and Mr. F. Hill.

LIBRARY.

The following additions were made to the Library since the meeting held in May :—

Presentations.

*** *The names of Donors in Capitals.*

Durjana Kari Panchánana by Rangáchári Swámi.—BÁBU RÁJENDRA LÁLA MITRA.

Report of the Government Charitable Dispensaries of Bengal for the year 1865.—THE GOVT. OF BENGAL.

Selections from the records of the Government of the N. W. P. New Series Vol. III.—THE GOVT. OF THE N. W. P.

The Rahasya Sandarbha, Vol. IV. No. 38.—THE CALCUTTA SCHOOL BOOK SOCIETY.

Social Science for India, a paper read before the Oudh Scientific Association, by Syud Shurfooddeen.—THE OUDH SCIENTIFIC ASSOCIATION.

Bulletin de la Société de Géographie of Paris, for February 1867.—THE SOCIETY.

Memoirs of the Geological Survey of India, Palæontologia Indica, Vol. V. parts 1-4.—THE SUPT. OF THE GEOL. SURVEY.

Purchases.

The Indian Medical Gazette, Vol. II. Nos. 1, 2, 3, 4.

Comptes Rendus, Vol. LXIV. Nos. 6 and 7.

Revue et Magasin De Zoologie, 1867, No. 1.

The Annals and Magazine of Natural History, Vol. XIX. No 3.

The Ibis, Vol. III. No 9, New Series.

Revue des Deux Mondes, 15th February, 1867.

Reise der Oesterreichischen Fregatte Novara um die Erde, in den Jahren 1857, 1858, 1859, unter den Befehlen des Commodore B. von Wüllerstorf-Urbair.

Zoologischer Theil: *Fische*, 1 and 2 Abtheilung, by Dr. Rudolf Kner.

Amphibien, by Dr. Franz Steindachner, 1 Band.

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Statistisch-Commercieller Theil, by Dr. K. Scherzer, 2 Vols.

Medizinischer Theil, by Dr. E. Schwarz, Vol. I.

Les Polynésiens et leurs Migrations, by M. De Quatrefages.

Dei Molluschi Raccolti dalla Missione Italiana in Persia.

Catalogue Général de la Librairie Française pendant 25 Ans. (1840—1865) By O. Lorenz. Liv I, II, III.

Die Persischen Handschriften der K. Hof-und Staatsbibliothek in München, by J. Aumer.

Die Arabischen Handschriften der K. Hof-und Staatsbibliothek in Munchen by J. Aumer.

Die Preussische Expedition nach Ost-Asien. Nach Amtlichen Quellen. Zweiter Band.

Révolutions et Migrations des Peuples de la Haute Asie, by A. Jardot.

Das Münz-, Mass-, und Gewichtswesen in Vorderasien bis auf Alexander den Grossen, von J. Brandis.

Captain Beddome's Ferns of British India, Part XV.

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR JUNE, 1867.

The Monthly General Meeting of the Asiatic Society of Bengal was held on Wednesday, the 5th instant, at 9 P. M.

Dr. J. Ewart, in the chair.

The minutes of the last meeting were read and confirmed.

Presentations were announced—

1. From the Editor, the first Volume of the "Pandit."

2. From the Königlich Preussischen Akademie der Wissenschaften, I. Abhandlungen, 1865.

3. From the Government of Bombay, through Dr. R. L. Playfair, a copy of the "Fishes of Zanzibar."

4. From Lieutenant-Colonel B. Ford, Superintendent, Port Blair, specimens of a *Fulgoria candelaria* and a *Phyllium Siccifolia* and the Skull of a Dugong.

5. The following gentlemen, proposed and duly seconded at the last meeting, were balloted for and elected as ordinary members.

The Right Rev. Dr. Milman, Lord Bishop of Calcutta.

Lieutenant J. Gregory.

W. Duthoits, Esq., C. S.

J. M. Scott, Esq., C. E.

Bábu Obhoy Churn Mullick.

6. The following gentlemen were candidates for election at the July meeting.

C. A. Hackett, Esq., A. R. S. M., Geological Survey of India, proposed by Mr. Ball, and seconded by Mr. Ormsby.

Dr. C. Macnamara, proposed by the President, and seconded by Mr. Ormsby.

N. A. Belletty, Esq., Civil Assistant, Topographical Survey of India, proposed by Captain H. H. G. Austen, and seconded by Mr. Grote.

Dr. J. J. Wood, officiating Garrison Assistant Surgeon, Fort William, proposed by Dr. Ewart, and seconded by Dr. Partridge.

The Council reported that they have elected the following gentlemen to fill up vacancies in the several Committees.

In the Library Committee,—H. B. Medlicott, Esq., and Cumár Harendra Krishna Deva.

In the Natural History Committee,—H. B. Medlicott, Esq., V. Ball, Esq., Dr. J. Ewart, and, Mr. Justice Norman.

In the Statistical Committee,—Mr. Justice Phear.

In the Linguistic Section of the Ethnological Committee,—Mr. Justice Markby.

A letter was read from Lieutenant-Colonel H. Raban, intimating his desire to withdraw his name from the Society.

Letters were read—

7. From the Director of Public Instruction, forwarding a copy of Mr. Cowell's Report on the Toles of Nuddea.

No. 1547.

From *the Director of Public Instruction*,

To *the Secretary of the Asiatic Society*.

Dated Fort William, 9th April, 1867.

SIR,—I have the honor to forward herewith, for the information of the Asiatic Society, a copy of a report on the Sanskrit Toles of Nuddea by Mr. E. B. Cowell, late Principal of the Sanskrit College.

I have the honor to be,

Sir,

Your most obedient Servant,

W. S. ATKINSON,

Director of Public Instruction.

From E. B. COWELL, Esq., *late Principal, Sanskrit College, Calcutta, to* W. S. ATKINSON, *Esq., Director of Public Instruction*,—(*dated the 19th January*, 1867.)

SIR,—I have the honor to forward you my Nuddea Report. As I have added at the end some remarks on its necessary defects and the causes of my long delay in sending it, I need not repeat them here.

I may add that the report would have been finished before I left India, if my time had not been occupied by some communications about the Madrassah, which took off my thoughts from the report.

I hope the report will be of some use, as it is. I wish I could return for a month to Nuddea, to make it better.

From E. B. Cowell, *Esq.*, *late Principal of the Sanskrit College, to* W. S. Atkinson, *Esq.*, *Director of Public Instruction,—dated the 17th January*, 1867.

Sir,—I have the honor to forward to you the following report of my visit, in 1864, to the Toles of Nuddea :—

In accordance with your instructions I proceeded thither with Mr. Woodrow, and we were accompanied by Pandit Mahesa Chandra Nyáyaratna, one of the Professors of the Sanskrit College, with whom I have for some years studied Nyáya, and to whose wide attainments in Hindu philosophy, as well as general ability and learning, I can testify from personal knowledge in the highest degree. We left Calcutta on Monday the 29th of February, and made Krishnagur our head quarters, whence we made daily excursions to Nuddea, which is about ten miles distant. I must not omit to mention that we received much attention from the Mahárájá of Nuddea, who held a *quasi* durbar of Pandits, which enabled us to make the acquaintance of many who did not reside in Nuddea itself. I returned to Calcutta on the 8th of March.

The word Tole (টোল) is a Bengali word of uncertain derivation ; but there are at least two Sanskrit words for the thing itself, *chatúshpáthi*, *i. e.*, a place where the four vedas are studied, and *maṭha*. The former does not seem to be an ancient word, as I do not find any authority for it in the St. Petersburg Sanskrit Dictionary, except the Sabda Kalpa Drúma of Rájáh Rádhá Kánta Deva ; but *maṭha* is an old word and occurs at least as far back as the Amara Kosha.

The institution is curious and interesting, as being undoubtedly a remnant of old times. It represents, in fact, the same state of feeling in ancient India as that which we find in ancient Greece, and which so continually comes up in Plato's controversies with the Sophists or paid Professors of his day, *viz.*, the popular prejudice against receiving mercenary reward for the communication of knowledge. The Pandit of a tole should properly not only instruct his pupils gratuitously,

but he should also provide them with food, clothing and lodging, during their stay under his teaching. He himself is to be remunerated indirectly by the invitations and presents which celebrity as a teacher would ensure his receiving at the religious ceremonies of the neighbouring zemindars. Thus my own visit was delayed some weeks in consequence of all the principal Pandits of Nuddea being absent, as they had gone to attend the çraddha of the late Ráják of Cooch Behar. The tole system of Nuddea has, however, degenerated in this as in other respects. The Pandits of most toles in other districts still lodge and feed their pupils; but those of Nuddea, with very few exceptions, have been able to break through this custom. They now only supply their pupils with lodging, the reputation of Nuddea no doubt enabling them to attract students from other toles in spite of the greater inducements which the latter offer.

The chief studies of Nuddea are Smṛiti and Nyáya. It is the latter, especially, for which its name is celebrated all over India. Other provinces have their own peculiar schools of law, and Nuddea, therefore, can generally only attract students of Bengal to its Smṛiti toles; but in logic it has an unrivalled reputation. Chaitanya, the celebrated reviver of the mystic worship of Krishṇa at the close of the 15th century, was a native of this place; and it has produced a succession of great Naiyāyika teachers, whose names are household words in every Pandit family in India. In fact the name of Nuddea is associated with the latest development of the Nyáya philosophy.

The ancient Sutras or Aphorisms of Gotama do not represent the modern logic of India; and although the recent school may have added little or nothing to the real discoveries of the Hindu Aristotle, they have undoubtedly elaborated a most refined system of logomachy, far surpassing in subtilty and ingenuity all the scholastic disputations of mediæval Europe.

One of the most celebrated mediæval logicians was Gangeça Upádhyáya of Mithilá, who wrote a large treatise, called the *Chintámani*, in four sections on the four Naiyáyika *pramáṇas* or sources of knowledge, *i. e.*, perception, inference, comparison, and testimony. It is this work which has furnished the text to the modern Nuddea school. Its most renowned members are the following.

1. Raghunátha Çiromaṇi, who wrote a commentary on the first two sections of the Chintámani. This is called the Didhiti.

2. Mathurá Nátha Tarkavágiça, who wrote a gloss on the Didhiti and also an original comment on Gangeça.

3. Jagadiça Tarkálankára, who also wrote a commentary on part of the Didhiti as well as many other works, especially a very celebrated treatise on logic and grammar, called the çabda-çakti-prakáçiká.

4. Gadádhara Bhattáchárya, who wrote a commentary on the Didhiti and a series of works, such as the Vishayatá-vádártha, &c., on the abstrusest mysteries of the modern logic.

5. Çankara Tarkavágiça, who wrote a commentary called Patriká, on the harder passages of Mathurá Nátha, Jagadiça, and Gadádhara. He seems to have flourished about sixty or seventy years ago: and it is he who is said to have brought to its height the present vicious system of disputatious logomachy which prevails in Nuddea.

A tole is generally a mere collection of mud hovels round a quadrangle, in which the students live in the most primitive manner possible. The Pandit does not reside with them, but comes to teach them on the lawful days. Each student has his own hut, with his brass waterpot and mat, and few have any other furniture. Most make their own copies of the books they use, and a large part of the year is vacation, during which they wander over the surrounding country on begging expeditions; but during the reading months much hard mental labour is undoubtedly gone through. On one side of the quadrangle there is a "lecture hall," usually on a raised platform, some three feet from the ground; it is open on one side, and just sheltered on the other three from the rain and wind. In some toles it is only a thatched shed; in others it is a little more elaborate. Only one tole in Nuddea can boast of any external adornment. This is the tole of Pandit Prasanna Chandra Tarkaratna. It was built for him by a Bábú of Lucknow, and is really an elegant building, occupying about a beegah and a half of land. The quadrangle inside is about thirty yards square and contains thirty rooms for the students. The rooms are generally about nine feet long and eight wide, with a window and door; the corner rooms are rather larger. More than half of one side is given up to a lecture hall or *dálán*. This stands on a platform raised some five feet from the ground; it has two apartments, each about thirty-three feet in length, the outer is ten, the inner twelve feet wide; and the front is supported by six pillars

which produce a very good effect. The other toles have no architectural display whatever. Everything is of a more than Spartan simplicity; and one cannot help honouring the zeal for knowledge, however misdirected the zeal or useless the knowledge, which leads so many students, generation after generation, to devote themselves to such monastic privations and hardships. The love of fame is, no doubt, the motive with many. The fact of having studied at Nabadwipa and gained an *upádhi* there, will ensure respect for a Pandit in every part of India, from Lahore to Travancore. But there are some who are led by less worldly motives. These come to study Nyáya, as students came to the University of Paris in the middle ages, and one can hardly fail to be reminded of Chaucer's lines about—

> "The clerk of Oxenforde also
> That unto logik hadde long ygo;
> As leene was his horse as is a rake,
> And he was not right fat, I undertake.
> And able that he was a philosophre,
> Yet hadde he but litel gold in cofre."

I could not help looking at those unpretending lecture halls with a deep interest, as I thought of the Pandits lecturing there to generation after generation of eager inquisitive minds. Seated on the floor with his 'corona' of listening pupils round him, the teacher expatiates on those refinements of infinitesimal logic which make a European's brain dizzy to think of, but whose labyrinth a trained Nuddea student will thread with unfaltering precision. I noticed during my visit middle-aged and even grayhaired men among the students of the celebrated toles, and some of these had come from such widely different homes as Lahore, Pooree, and the Tamil country.

I visited every tole in Nuddea, and examined every one with my Pandit more or less thoroughly. The following is a list; but the number of the students is probably not wholly accurate, as of course no register of attendance is kept, and it was not easy to decide whether absent students were really to be counted on the rolls or not. Professor Wilson found from 500 to 600 pupils at the time of his visit in 1829, the number is now less than 150. Part of the decrease may no doubt be attributed to the prevalence of the epidemic which has driven many away, and prevented others from

coming; but there are other and permanent causes at work for the overthrow of the scholastic glory of Nuddea.

Smṛiti.

1. The tole of *Brajanáth Vidyáratna.* Here there were seventeen students, four from the districts round Nuddea (*deçíya,*) and thirteen from other parts of Bengal (*bideçí.*) Those from Bengal came from Dacca, Rungpore, Dinajpore, Jessore, Rajshahi, and Pubna.

2. That of *Rámnáth Tarkasiddhánta.* Here there were ten *bideçí* and five *deçiya* students. The former came from Jessore, Khunla near Dacca, Dacca, Tripur, and Burisal.

3. That of *Madhusudan Nyáyaratna,* the brother of Hara Mohan Chudámaṇi. Here there were three *deçíya* and seven *bideçí* students, the latter from Jessore and Burisal.

4 That of *Haridása Çiromaṇi.* Here there were four students, two from the neighbouring district and two from Dacca.

5. That of *Çib Náth Bidyábáchaspati.* Here there were four students, two of whom came from Midnapore and one from Jessore; the fourth was a native of the Nuddea District.

6. That of *Prasanna Cámár Vidyáratna,* brother of the deceased Çri Rám Tarkaratna. Here there were fourteen students, twelve of whom were *bideçí, i. e.,* as coming from Burisal, Dacca, and Chittagong.*

Nyáya.

1. That of the two brothers, *Hara Mohan Chudámaṇi* and *Bhuranmohan Vidyáratna,* and their uncle, *Raghúmaṇi Vidyábhushan.* Here there were twenty-one students, four *deçíya* and seventeen *bideçí,*—the latter from Furreedpore, Burisal, Dacca, Midnapore, Jessore, Mithilá, and one even from Nepál.

2. That of *Prasanna Chandra Tarkaratna.* Here there were eighteen students, fourteen of whom were *bideçí, i. e.,* six from Mithilá, five from Delhi and Lahore, two from Pooree and one from the Tamil country.

3. That of *Mádhava Chandra Tarkasiddhánta.* Here there were sixteen students, eight of whom were *bideçí, i. e.,* four from Bakla near Comilla, two from Dinajpore, and two from Jessore.

* His pupils were quite middle-aged and some greyheaded. They wished to read with him, though a young man of twenty-five, as he belonged to a family long renowned as Smarta Pandits.

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Smriti.

1. The tole of *Brajanáth Vidyáratna*. Here there were seventeen students, four from the districts round Nuddea (*deçya*,) and thirteen from other parts of Bengal (*bideçí*.) Those from Bengal came from Dacca, Rungpore, Dinajpore, Jessore, Rajshahi, and Pubna.

2. That of *Rámnáth Tarkasiddhánta*. Here there were ten *bideçí* and five *deçiya* students. The former came from Jessore, Khunla near Dacca, Dacca, Tripur, and Burisal.

3. That of *Madhusudan Nyáyaratna*, the brother of Hara Mohan Chudámani. Here there were three *deçiya* and seven *bideçí* students, the latter from Jessore and Burisal.

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4. That of *Hari Náth Tárkasiddhánta.* Here there were thirteen students, ten of whom were *bideçí, i. e.,* five from Midnapore, four from Mithilá, and one from Nepal.

5. That of *Krishna Kánta Çiroratna.* Here there were two students, both from Jessore.

6. That of *Brahmaçrama Swámi,* a dandi Goswami.

He had lately had seven students, but only one was with him at the time of my visit. His former house was destroyed by an inundation of the river. Before him it had been occupied by a very celebrated *dandi* named Swayam Prakáça; and tradition reports that it was at that house that the once projected College of Nuddea was to have been established.

Thus at the time of my visit I found only twelve toles. Professor Wilson in 1829 appears to have found twenty-five!

Besides these regular toles, there is also an udásin or ascetic recluse from Pooree, named Káçi Náth Çástri, who teaches Vedánta to the students of other toles:—

The following are some of the celebrated pandits in Nuddea without toles.

1. Lál Mohan Vidyábhushan.
2. Nanda Kumár Vidyábhushan. These two are very learned in Smṛiti.

The following are profoundly versed in Nyáya:—

3. Umácharan Tarkaratna.
4. Rájnáráyana Nyáyabhushan.
5. Nilmani Sárvabhauma.
6. Surya Kánta Vidyálankár.
7. Raghumani Tarkapanchánan.
8. Umá Kánta Nyáyaratna.
9. Purushottam Nyáyaratna.

Of course there are also many toles in the villages round Nuddea, these I did not visit; but I particularly heard of that of Lakshmi Kanta Nyáyabhushan, the purohit or family priest of the Mahárájáh. He teaches Smṛiti at Barigachhi, about ten miles to the north of Nuddea. I also heard a good deal of the Nyáya tole of Prasanna Chandra Nyáyaratna at Belpokhar, three kroses north of Nuddea. This Pandit was one of the six who signed the petition to the

Lieutenant-Governor, the other five being, I believe, Nuddea Pandits. He told me that he had twenty-two students, eleven *deçíya* and eleven *bideçí* from Mithilá, Burdwan, and Delhi.

The Smṛiti students are said generally to study at a tole for eight years, the Nyáya for ten years.* All toles are closed for ten days in each month, *i. e.*, on the 1st *(prathipada)*, the 8th *(ashtami)*, 13th *(trayodaçi)* 14th *(chaturdaçi)* and 15th *paurnamasi)* of each paksha or fortnight, beside two weeks for the Saraswatee pooja and occasionally for other parvas. In Nyáya toles they close from *Ratha* to *Rása*, *i. e.*, from Ashádha to Kártika (five months). In Smṛiti toles they close for three months, from Bhádra to Kártika. But of course the studies are liable to irregular interruptions when the Pandits receive invitations from the zemindars. During the vacations the students go on begging expeditions (much as Hindoo and Buddhist ascetics have been famed for doing from immemorial times), or they return to their homes.

The studies at the Nuddea toles are chiefly confined to the following works, or parts of works, on logic and law —

The chief works read in Nyáya or Logic are, besides the well known standard works, the Bháshá-parichchheda and its commentary the Siddhánta Muktávali:

1. For *Vyápti* or the doctrine of the syllogism (comprising also the endless subtleties on *pakshatá*, or the conditions and rules relating to the minor term in its connection with the major term and the middle), the commentaries on the Didhiti by Mathuránátha, Jagadiça and Gadádhara.

2. For *hetwabhasa* or the fallacies, the commentaries of Jagadiça and Gadádhara.

3. For *Sámányalakshana jnána* (one of the most abstruse discussions of Hindu logic, referring to the transcendental perception, by which the mind, as it were, seizes the class in the individual, or, more properly, sees all the individuals under the one now present to the eye), the commentary of Jagadiça.

4. The Kusumánjali, or the celebrated attempt of Udayana

* Of course but for the continued interruptions the course of study could be finished in half the time.

Acharya to establish on Naiyáyik arguments the existence of the Supreme Being.*

5. The Çabda çakti prakáçiká of Jagadíça.

The chief works on Law or Smriti are—

1. Parts of Raghunandana's Ashtávinçati Tattwa.
2. Dáyabhága.
3. The Çráddha viveka.
4. The Práyaçchitta viveka.

The peculiarities of the Nuddea scholastic training may be summed up at once by a reference to that part of Bacon's *Novum Organon*, which describes the system of scholastic logic still current in his day. In the 29th Aphorism of the first book he says that those sciences which are founded on opinions and arbitrary dogmas have a natural affinity to anticipation rather than to interpretation, and to the scholastic logic rather than to his proposed induction, for their object was to subdue assent, not things; to win victory in a disputation over an antagonist, not to extend man's dominion over nature. We have here an exact account of Nuddea logic, and the class of men whom it tends to educate,—its sole end is *vichára*, to win victory at a festival by clever arguments which silence the opponent for the time being. Many Pandits devote most of their attention to the *purvapakshas*, *i. e.*, those parts of the popular treatises which give at great length the arguments of the opposite side to the author,—it being the established rule in Hindu dialectics that every writer must present at full his opponents' views and exhaust all that can be adduced in their favour, before he proceeds to overthrow all that has been brought forward and to establish his own opinion.† These Pandits are thus enabled to stock themselves with a store of plausible arguments to oppose a popularly received opinion, and thus to win the credit of ably supporting an apparently hopeless cause. The very form of Hindu logic necessitates

* This has been edited with an English translation by the author of this Report.

† The writer has heard Pundit Iswar Chunder Vidyasagar relate how he first conceived his disgust at the native Nyáya, when as a student he once spent a week of hard labour to master some abstruse opinion, which day after day was elucidated and at length made clear by the teacher. When the class met the next day, the first thing they heard was, "now this view is only the *purvapaksha*, we must now proceed to shew that it is incorrect."

error,—it is so fatally bound up with technical terms, that it inevitably degenerates into a mere playing with words; and this tendency, which is to some extent an inherent fault in European, as well as Hindu, mediæval logic, becomes exaggerated to its height in the modern Nuddea school.

In three of the toles we had the students exercise themselves in a discussion; and it was very curious to watch the intense eagerness of the disputants, as well as the earnest sympathy of the surrounding students and Pandits. A successful sophism elicited a smile of approbation from all.

The subject of one of these disputations was *Sádhyábháva* or the absence of the major term. I could not follow the intricacies of the argument, but its summary was as follows.—

All accept that *Sádhyábháva* means the absolute absence of fire, as, *e. g.*, in a lake of water. But how is this to be understood?

a.—In the sentence the lake has the total absence of fire or is totally destitute of fire; it cannot be merely meant that *all* fire collectively is absent, because this equally applies to a volcano, as that has indeed fire, but it is only mountainous fire and not kitchen fire. The sentence would, in fact, be useless, as it would be as true of any thing in the world as of your lake,—nothing can have *all* fire in it. *b.*—Again, as the volcano has the absence of fire and a jar, *i. e.*, has not fire and a jar both together, this is another way in which we might say that the same description would apply (if unlimited) to a volcano and a lake. *c.*—If you say the lake has Kebala-vahni-abháva, *i. e.*, has the absence of fire alone, this gives rise to a quibble on the meaning of 'alone.' This is met by defining it, as "it is not the absence of anything besides fire but only the absence of fire," (বহ্নিভেদের অভাব নহে কিন্তু বহ্নির অভাব), this stops the apparent fault (or fallacy) of *Ubhayapaksha*. Then comes the question, "what is the meaning of the absence of all fire?" It is explained by কোন বহ্নি না থাকে, there not being any fire there,—now in the mountain there is *some* (কোন) fire, and it is the absence of *any* (কোন) that distinguishes the lake. Then comes the question, what is meant by 'anything besides fire?' Does fire mean here mountain-fire or any kind of fire, and so on, for ever? For the series of endlessly emerging quibbles is never stopped by the exhaustion of the subject, but only of the disputants or the audience.

At the present time all *vichâras* are of this kind,—not to elucidate the real meaning (for this is accepted on the authority of the writer), but to endeavour to establish or overthrow some verbal quibble which seeks to impugn the perfect accuracy of the definition.

In the teaching of the Pandits everything is directed to one end, *ad bene disputandum.* The primeval fault of the Hindu intellect has always been an excessive tendency to note the differences of things;* and of course such teaching in logic and law only fosters this defect to the highest possible degree.

As a specimen, I would subjoin a disquisition on the nature of prohibition given by Pandit Brajanâth Vidyáratna, the leading teacher of Smriti.

A student was selected during my visit to his tole to read and explain a portion of one of Raghunandana's Tattwas. The passage brought up the question of prohibition or *Nishedha*, and this led to the Pandit's giving a lecture on its nature and object.

I must here premise that in Hindu logic there are three kinds of *abhâva*, *i. e.*, non-existence or absence.† These are respectively called "antecedent" (prágabhâva)," emergent" (dhwansábhâva) and "absolute" (atyantábhâva). The first is the non-existence of a jar before it is made, which lasts from eternity down to the moment of its production and then ceases. The second is the non-existence of a jar when it is broken, which begins from the moment of its fracture and goes on to eternity forward. The third or absolute non-existence is seen in such sentences, as "there is no jar on this spot;" even if you move the jar thereto, there will be no jar in its former spot. The non-existence is always seen necessarily *somewhere*, else the jar would be omnipresent.

Now the Pandit maintained that the object of "command" (or *vidhi*) was to produce action or activity (*pravritti*); and similarly the object

* This tendency was at once the strength and weakness of the self-developed Hindu mind. Compare *Novum Organon*, i. iv. "Maximum et velut radicale discrimen ingeniorum, quoad philosophiam et scientias, illud est; quod alia ingenia sunt potiora et aptiora *ad notandas rerum differentias*, alia ad notandas rerum similitudines. Utrumque ingenium facile labitur in excessum, prensando aut gradus rerum aut umbras."

† Properly there are four, but the fourth (mutual or inter-exclusive non-existence) does not come in here. This is in fact our 'difference;' thus a jar and a chair mutually exclude one another, i, *e.*, they are different things.

of *nishedha* or "prohibition" was to produce the absence (or non-existence) of activity, *i. e. pravritter abhâva*. Now the question arises to which of the three kinds of *abhâva* does this belong?

He first shewed that it could not be the third or "absolute" *abhâva*, as this would imply that the absence *must* always exist somewhere, whether the prohibition be given or not. Neither could it be the "emergent," as this would imply that the actions prohibited must necessarily have been previously done, before the prohibition could exist,—as if there could be no such thing as prevention but only cure! He therefore, concluded by exhaustion that the non-existence of action which a prohibition produced in its hearers was "antecedent" or *prâgabhâva*. In other words, until the prohibition is promulgated, the actions which it is to prohibit are of course not prohibited; they are not, therefore, *so long* the objects of its injunction; they only become so from the moment of its being issued. From the moment of its issue, these actions are forbidden, *i. e.*, the hearer of the law will thenceforth not do them. There will therefore, in his case, be an absence of such prohibited actions, which will continue until he violates the law; and this absence will of course reach back to eternity, as until the prohibition came, he never could have committed them as prohibited. In other words, the non-existence of prohibited actions ceases only when, *after the prohibition*, some such action is performed *

This I think, is a fair and perhaps favourable specimen of the niceties of what Dr. Hall has well called "the arcana of Hindu dialectics."†

One of the things which most interested and surprised me in my visit to Nuddea was the great desire which I found everywhere existing for English education. Of course amongst the *tolpi* students this did not exist; the grown up and elderly men who come to Nuddea to complete a purely Pandit education, only care for studies which will gain them reputation at home; but it is very different with the *deçiya* students. I was continually receiving applications from the students for a free

* The Pundit's reasoning is perhaps illustrated by Gibbon's remark on the injustice of a retro-active enactment, "which punishes offences which *did not exist* at the time they were committed." (*Autobiography*, p. 80.)

† A contribution towards an index to the Bibliography of the Indian Philosophical systems, p. 32.

education in the Sanskrit College; everywhere the desire was expressed for a good Anglo-Sanskrit School. Such a school would effect more than anything else to abolish prejudice and to let light into a district which has long been a home of superstition and bigotry. The Church Missionary Society have long had a grant-in-aid school there. During the time of the Reverend S. Hasel, Sanskrit used to be taught there to a certain extent; but what is wanted is a thoroughly good school, educating up to the Entrance Examination, and at the same time giving a sound training in Sanskrit Grammar and Poetry. Perhaps the existing school could be adapted to this purpose, if the Church Missionary Society were disposed heartily to enter into it. Anyway the establishment of such a school, either by the Church Missionary Society or by Government, appears to me to be a pressing want, and I should indeed rejoice if my visit resulted in such a measure. Compared to this, the question of improving the toles is a measure of very secondary importance.

This leads me to notice a very interesting feature in Nuddea, which I was much surprised to find, and which seems to me a very remarkable proof, how a public demand is beginning to make itself felt for a better education than that given by the toles, even among the orthodox Hindu population. I refer to the *Akhaḍás* (আখড়া). These are schools kept by pupils of the Smriti or Nyáya toles, who here become in their turn teachers of grammar. I visited two of these schools, one held in the house of Pandit Rám Náth Tarkasiddhánta, and taught by Çri Náráyan Bhattáchárjya and Çri Mádhab Bhattáchárjya. Here there were twelve students. The second was held in the house of Pandit Rádhábállabha Bhattácháryya and was taught by Kumuda Nátha Çiromaṇi and several other tole students. Here there were twenty-five scholars. In this *Akhaḍá* three students had finished the native grammar Mugdhabodha, and began to read Kálidása's poem, the Kumára Sámbhava. I was interested to learn that two of the lads studying there were descendants in the seventh generation from the celebrated Pandit Jagadiça. In the first 'Akhaḍa' a little English was also taught, and the first book of reading was in use. This last fact seems to me most significant, that even in Nuddea, the centre of Hindoo exclusiveness, in a school entirely under the management of tole

students, a provision was made, however imperfect, for teaching some little smattering of the language and learning of the West.

The toles of Nuddea receive at present an annual pension from Government of Rupees 1,200. The history of this grant appears to be as follows:—

The Committee of Revenue found in 1784 that the Rájáh of Nuddea used to grant an allowance to the Padooás (পড়ুয়া) or Sanskrit students of the toles, and in September 1784 they appear, to a certain extent, to have sanctioned an annual grant of Rupees 1,200 to this object. It was paid from the Treasury of Nuddea, and distributed to the students by a person on the part of the zemindars.*

On the 18th May, 1787 (further enquiry having been instituted) the Board of Revenue directed the Collector to continue the payment of the pension for the present, and to charge the same under the head of 'Pension.' On the strength of this order it was regularly paid to the students at the rate of Rupees 100 per mensem. In 1829, at the request of the Collector of Nuddea, the Civil Auditor (April 6th) made a reference enquiring as to the authority on which the pension was granted. The Board on the 6th June quoted their letter of the 18th May, 1787, and at the same time stated thus—"There is no mention whatever of this allowance on the accounts or correspondence relating to the decennial settlement; and if the payment has been continued without enquiring on the authority, it ought to be immediately suspended and a full explanation of the irregularity furnished by the Collector." The allowance was in consequence discontinued, but a remonstrance from the Nuddea students was received with the recommendations of the Moorshedábád Commissioners, dated 22nd January, 1830, and was submitted to Government on the 12th February.

Meanwhile the late Professor H. H. Wilson (then Junior Member and Secretary to the General Committee of Public Instruction) had visited the toles and reported on their state; and in a letter dated 3rd August, 1830, Government sanctioned the

* Professor Wilson in his Report describes this distribution as it existed in his time, 1829. It was given to the bidesi students, *i. e.*, those who came from places more than three days' journey from Nuddea, and it allowed them from twelve annas to one rupee per mensem.

continuance of the pension with arrears, and the payment has continued to the present time.

Professor Wilson remarks in his Report—"Although the value of the learning acquired at Nuddea may not be very highly estimated by Europeans, yet it is in great repute with the natives, and its encouragement even by the trifling sum awarded is a gracious and popular measure:" of course, with the spread of English education in Lower Bengal the native estimate of the value of "infinitesimal logic" and the toles which teach it, is gradually altering, and I have heard many of the most able English scholars among the natives speak somewhat strongly against the system. As it is at present conducted, there can be no doubt that the Nyáya toles of Nuddea teach very little that is of any worth, either for practical life or even the history of the human mind; but this partly arises, not from the barren nature of Hindu logic, but the barrenness of the special part of it, to which they exclusively confine their attention. It is, as if in Oxford we neglected the Organon of Aristotle, and exclusively studied "the Farrago of the Parva Logicalia."* But if the really great writers on Hindu logic were systematically taught in the toles of Nuddea, I should hardly be inclined to condemn as worthless all that the students would learn there. As it is, they learn only a part even of Nyáya, and I found that very few could read any portion of the Kusumánjali, or knew much beyond the endless intricacies of *Vyápti* and *pakshatá*. Here of course they were completely at home,—it was a marvel to see how completely.

I am hardly prepared to suggest a definite plan for the improvement of the Nuddea toles, because I think that this would require a practical acquaintance with Mofussil education, which I do not possess. But there are two suggestions which I would venture to make:—

1. It would be a great improvement, if some superintendence could be exercised over the Sanskrit studies, and if rewards could be offered for *thorough* proficiency in the studies of the place. At present the certain effects of neglect and the absence of all encouragement are plainly seen in the toles,—they do not teach well what they profess to teach, every thing is chilled by the want of উৎসাহ from those in authority. Now regular examinations (with many rewards) in

* Mansel's *Aldrich*, Prof.

certain text books, held under the superintendence of the Inspector by such a Pandit of the Sanskrit College as Maheça Chandra Nyáyaratna, would give the needed stimulus. Examinations should also be held in the Mugdhabodha or Sanskrit grammar.

2. It seems to me very needful, that, as the *condition* of a liberal help for the Sanskrit studies, Government should insist on some amount of useful learning being also taught. Some arithmetic and perhaps geography and history, and (still better if it were but possible) some little Western Logic and Moral Philosophy would be an invaluable auxiliary and corrective to the peculiar training of a tole. Of course this must all be given in Bengali, and I have no doubt that a sound knowledge of Bengali itself is very rare at Nuddea, even among great Sanskrit scholars. In this way we should break into the narrow circle of prejudice and exclusiveness which hedges round so closely the students of Nuddea, and we should fit them for exercising a beneficial influence on their countrymen. At present they necessarily belong to the past, and are utterly unable to sympathise with or understand the mighty movements round them. A Nuddea student is an exact counterpart to Gibbon's description of the sophist Libanius, "a recluse student, whose mind, regardless of his contemporaries, was incessantly fixed on the Trojan War and the Athenian Commonwealth." Still, after all, their position and training unavoidably give them great influence among their countrymen, especially away from the towns. This influence is, no doubt, at present used everywhere against the progress of education and social improvement; but surely it would be an object well worth striving for, if we could improve, not abolish, the time-honoured tole, and if we could change the character of the students whom its system tends to form, into sound Sanskrit scholars instead of disputatious pedants, and into the friends, instead of the enemies, of native education.

I beg to forward you the above Report, and I must express my deep regret that I have so long delayed sending it. Much of it was written in India before I left, and I had hoped to send it completed soon after my arrival in England, but ill-health and prostration of energy precluded it, and subsequently I found it very difficult to collect the scattered fragments of my notes into a narrative. As it is, I feel it is very imperfect, and had I my Pandit Maheça Chandra by my side, I could easily increase its value tenfold.

As you have expressed a desire to have my Report, such as it is, I have resolutely gone over all my notes and memoranda and re-written the whole, and I send it with all its shortcomings and defects. It is not easy to write a Report on Nuddea in England. Little details have escaped me which I overlooked at the time, and which I now cannot supply; but I feel sure that the general impression I derived from my visit to the toles is still as vivid as it ever was.

8. From the Secretary to the Government of India in the Home Department, forwarding copies of a report on the manufacture of China grass by Mr. McClintock, American Vice-Consul at Bradford.

Revenue. *India Office, London, 7th March*, 1867.

No. 12.

To His Excellency the Right Honorable the GOVERNOR-GENERAL *of India in Council.*

SIR,—I transmit to your Excellency in Council thirty copies of a Memorandum, by Mr. McClintock, American Vice-Consul at Bradford, respecting the manufacture of China Grass, and the price which can be obtained for it in this country, which I have received from Her Majesty's Secretary of State for Foreign Affairs.

2. Lord Stanley, in transmitting this paper, informs me that he has ascertained, through the Bradford Chamber of Commerce, that the importance attached by the writer of the Report to this article is not exaggerated, and that nothing but its high price stands in the way of its being largely consumed.

3. Under these circumstances, I agree with the Secretary of State for Foreign Affairs that it will be useful to forward copies of the Report to any of the Officers of your Presidency who reside in places which may be favorable to the cultivation and export of this grass.

I have, &c.,

No. 4159. CRANBORNE.

Copy of this Despatch, together with three copies of the Report referred to, forwarded to the Secretary, Asiatic Society, Bengal, for information.

By Order,

(Sd.) A. P. HOWELL,

Under Secy. to the Govt. of India.

Fort William, Home Department;
the 22nd April, 1867.

Report by Mr McClintock, American Vice-Consul at Bradford, respecting the Manufacture of "China Grass."

Consulate of the United States, Bradford, December 15th, 1865.

The Chinese have for centuries made, by hand labour, various descriptions of "grass cloth," well known in America and Europe, and often of great strength and beauty, from the fibre of the *Boehameria cordata* or *Urtica nivea*, known in commerce as Chinese grass.

Large quantities of the grass have at various times been brought over to England, and probably also to the United States, in the hope of finding a market among the dry goods manufacturers who are always on the look-out for new materials; but it has hitherto been, and it is even now, found impossible to produce a true "grass cloth" by machinery. The fibre is rather brittle, though very strong, and it is found that the China grass cloth of commerce is only to be woven by hand labour, in which, of course, the Chinese themselves are beyond the reach of competition. Large quantities of the grass have, therefore, been in store in London and elsewhere for years. Some enterprising manufacturer would occasionally purchase a few tons with which to make experiments; but the only result for a long time was, that he who experimented the most, lost the most. Thousands and even tens of thousands of pounds were sunk by one and another, who each fancied for a time that he had discovered the true method of working up this intractable substance. Whether it was tried in the United States or not, I do not know; but the concurrent testimony of my American friends in the trade is, that no one is now successfully working it at home. Within two or three years past, however, several firms in this neighbourhood have succeeded, by chemical means, in bringing the fibre into a state most closely resembling the best mohair or other bright worsted, and have worked up great quantities of the refined material as a substitute for worsted in many kinds of stuff goods, always, however, in combination with cotton (the warp being of cotton and the weft of the China grass), as they have not yet been able to work it properly alone.

The manufacture of worsted goods—that is, of goods made of long-staple wool, as distinguished from short-staple or ordinary wool—

has become an immense trade, of which Bradford has at present almost a monopoly, although the manufacture has lately been extending in many parts of New England. Four-fifths of these goods are of mixed material—that is, are made with cotton warps. And for many articles of the kind, especially for those requiring a stiff, strong, and cool texture, combined with a glossy, silky appearance, it is found that the prepared China grass makes the very best material..

Of course, the grass manufacture is yet in very few hands, but its development already, even within the last few months, has been signally rapid. The market value of the raw material has for some years past maintained itself at the very high rate of about 80*l.* per ton, which price it is supposed cannot be much lessened for many years to come. Two things are certain in this respect: one, that there is now, and will be here, a practically limitless market for all raw "grass" that can be imported at from 70*l.* to 80*l.* per ton; the other, that under any fluctuations of the market the material is intrinsically so valuable that it will always in the future command a price as high as that of cotton, and nearly or quite as high as that of worsted itself, if not even higher.

Here, then, is a great and rapidly increasing market for a certain vegetable production at a very high price. In America we have, on the other hand, vast tracts of country which, being in the same latitude and with very much the same climate as those districts of China of which the grass is native, should be able to grow this production to great advantage. Why not, then, introduce its culture?

It seems certain that the manufacture of the grass fibre will be established in our country at no distant day; but in the meantime there is a market in England for all that we can conveniently grow. It is, for our planters, simply a question of experiment with the seed, having in view the market price of the raw produce. Successful experiments have been made very recently in Java and in India, proving that the grass will grow in any climate warm enough for the culture of cotton and sugar, provided the ground chosen be sufficiently moist.

I venture to suggest that further information, as well as quantities of the seed, &c., can doubtless be furnished by our Consular Officers in China, especially, perhaps, by the Consul at Hankow,

that place being the chief market for the grass, which is brought thither from the interior, and often from a great distance.

The receipt of the following communications was announced.

9. From C. F. Amery, Esq., "On the origin of races."

10. From Bábu Pratáp Chandra Ghoshe, B. A. "On the Adjustment of the Hindu Calendar."

11. From Dr. J. B. Davies, th Ethnology of India.

At the request of the President, Babú Pratáp Chandra read his paper, of which the following is an abstract.

The Hindu Civil year is a practical modification of the Hindu astronomical year. The astronomical year is determined by the period between two consecutive conjunctions of the sun with Açwini (β Arietis) the first asterism of the Constellation Aries. In determining the civil year we have only to reject the fractions of a day: thus, if the sun enter the first point of Aries at or after midnight of the 12th April, a day is to be added to the expiring year; or, if the sun enter on the morning of the 12th, we reject the day from the year.

The Hindu calendars placing the conjunction of the sun on the 13th April of the current year begin the year on that day. By a reference to European Tables and the solution of a few simple spherical triangles it is shown that the ecliptic conjunction of the sun with β Arietis happens in the present day between the 21st and 22nd April. The initial moment of the year was placed in former times on the vernal equinox, when the sign and the constellation Aries coincided. Owing to the retrograde motion of the equinoxes and to the neglect of Hindu astronomers in correcting the time of the first moment of the year, it has slowly advanced from the equinox at the rate of one day in 72 years.

The first moment of the Hindu year retains in its name the idea of its coincidence with the vernal equinox and the first moment of the ecliptic conjunction of the sun with the first point of Aries, a phenomenon that does not exist.

The vernal equinox is removed from the first of Vaiçákha by a period of about 22 days, and the moment of ecliptic conjunction of the sun with β Arietis is about 7 days in advance of the date. The paper is an attempt towards so adjusting the Hindu Calendar as will

make its indications agree with reality. To make the year begin with the ecliptic conjunction of the sun in the vernal equinox is an impossibility. To retain then the full idea which the name *mahá vishuva mesha sañkránti* conveys, is out of the question. The year must then be commenced at either of the two dates, the 10th of March, or the 22nd of April. The latter is preferred on account of the advantages the new method will confer on calculations.

A translation of the principal points of a circular issued in Sanscrit is appended. This quotes the most authoritative passages, showing that a change of the beginning of the year on account of the precession of the equinoxes is not contrary to the Çastras, with a Hindu the authority of the Çastra being the only argument.

Some doubts as to the propriety of performing the *Ghatotsarga* ceremony on the 31st of Chaitra having arisen, Professor Bápu Deva of Benares was addressed on the subject. The Çástrí replied favourably. His reply, with the original query, is appended to the circular. The circular quotes passages from the Súrya Siddhánta, the Soma Siddhánta and other astronomical works, to show that the Hindu authors admit of and give rules for determining the motion of equinoctial points.

Read a letter from Major C. H. Strutt, enclosing the following description of a coin of *Sophytus*.

Obverse.   *Reverse.*

Obverse. Head with helmet and cheek plates, a crown of laurel wreath over the helmet; no inscription.

Reverse. A cock in splendid preservation with a Greek inscription perfectly plain, ΣΩΦΥΤΟΥ "of Sophytus." Monogram ☤ the Caduceus or Mercury's Rod.

Purchased somewhere in the Peshawur district, from a zemindar, together with several coins of the Bactrian series, a gold Diodotus, two Alexander the Great's coins, and one of the *Bucephalus* coins. All of these coins are in perfect preservation.

LIBRARY.

The Librarian submitted a list of books added to the Library since the last meeting.

Purchase.

Reise der Oesterreichischen Fregatte Novara. Zoologischer Theil. Lepidoptera. By Dr. C. Felder.

Dictionnaire Turc-Arabe-Persan. By Dr J. T. Zenker. Heft XI.

Sanscrit Wörterbuch. By Otto Böhtlingk and R. Roth. *Bogen* 31-40.

Revue et Magasin de Zoologie, 1867, No. 2.

Revue des deux Mondes. 1st and 15th Mars, 1867.

Ibn-el-Atheri, Vol. I.

Comptes Rendus, Tom. LXIV. Nos 8 to 12, 1867.

The Indian Medical Gazette, Vol II. Nos. 5, 6.

Hewitson's Exotic Butterflies, No 62.

The Journal of sacred Literature, April, 1867.

The Quarterly Journal of Science, April, 1867.

Journal des Savants, March, 1867.

The Annals and Magazine of Natural History, April, 1867.

Catalogue de Livres Anciens et Modernes, Supplement.

The Westminster Review, April, 1867.

The Calcutta Review, May, 1867.

Exchange.

The Athenæum for Feb. 1867.

Presentations.

Transactions of the Royal Irish Academy:—Science, Vol. XXIV. Parts VII. VIII.—THE ROYAL IRISH ACADEMY.

Proceedings of the Royal Irish Academy, Vol. IX. Part IV.—THE ROYAL IRISH ACADEMY.

Proceedings of the Royal Geographical Society, Vol. XI. No. 1.—THE ROYAL GEOGRAPHICAL SOCIETY.

Memoirs of the Geological Survey of India, Palæontologia Indica Vol. V. Parts 1-4.—THE GOVERNMENT of India.

Jahrbücher der K. K. Geologischen Reichsanstalt. Band XV. 1865, No. Janner, Febr. Merz:—The K. K. Reichsanstalt.

Alt-arabische Gedichte über die Volkssage von Jemen, als Textbelege zur Abhandlung "Ueber die süd-arabische Sage," by A. von Kremer.—THE AUTHOR.

The History of India by the Hon'ble M. Elphinstone, translated into Urdu, No. 9.—THE SCIENTIFIC SOCIETY OF ALLIGURH.

Bulletin de la Société de Géographie, Mars, 1867.—THE SOCIETY.

Abhandlungen der Königlichen Academie der Wissenschaften zu Berlin, 1865.—KÖNIGL. PREUSS. AKADEMIE DER WISSENSCHAFTEN.

Proceedings of the Royal Society of London, Vol. XV. Nos. 90, 91.—THE ROYAL SOCIETY.

Journal Asiatique; VI. Series, No. 32.—THE SOCIE'TE' ASIATIQUE.

Selections from the records of the Bombay Government, No. CII. New Series.—THE GOVERNMENT OF BOMBAY.

Palæontologia Indica, V. 1-4. The Gasteropoda of the Cretaceous Rocks of S. India, by Dr. F. Stoliczka.—THE GOVERNMENT OF BENGAL.

Cours d'Hindustani à l'Ecole Impériale et spéciale des langues orientales vivantes près la Bibliothèque Impériale. Discours d'Ouverture du 3e Décembre, 1866.—THE AUTHOR.

The Fishes of Zanzebar.—BY LIEUTENANT-COLONEL R. LAMBERT PLAYFAIR AND A. C. L. G. GUNTHER:—THE GOVERNMENT OF BOMBAY.

Annual Report of the Geological Survey of India and of the Museum of Geology, Calcutta, 1866-67.—THE SUPERINTENDENT OF THE GEOLOGICAL SURVEY OF INDIA.

Proceedings of the Society for the Diffusion of Useful Knowledge in the Panjáb, Nos. XI. to XV.—THE SOCIETY.

The Pundit, Vol. I.—THE EDITOR.

Professional papers on Indian Engineering, Vol. IV. No. 15.—THE EDITOR.

Journal of the Agricultural and Horticultural Society of India, Vol. XIV. Part IV.—THE SOCIETY.

The Journal of the Statistical Society of London, March, 1867.—THE SOCIETY.

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR JULY, 1867.

The Monthly General Meeting of the Asiatic Society was held on Wednesday the 3rd July, at 9 P. M.

Dr. J. Fayrer, President, in the chair

The Proceedings of the last meeting were read and confirmed.

Presentations were announced—

1. From L. Jackson, Esq., a specimen of texture woven by insects, found near Gowas, in Zillah Moorshedabad.

2. From Dr. Hildebrand of Honolulu, through Dr. J. Anderson, a copy of the Grammar of the Hawaiian Language by L. Andrews, and a copy of a Dictionary of the Hawaiian Language by L. Andrews.

3. From Sir D. Macleod a photograph of a *Zungimi*.

The following gentlemen, duly proposed at the last meeting, were balloted and elected as ordinary members.

Dr C. Macnamara.
N. A. Belletty, Esq.
Dr. J. J. Wood.
C. A. Hacket, Esq.

The following were candidates for ballot at the August meeting — C. F. Amery, Esq., Superintendent Arboriculture, Lahore, proposed by P. H. Egerton, Esq., seconded by Dr. J. L. Stewart.

Theodore H. Hughes, Esq., F. G. S., proposed by Mr. Mallett, seconded by Mr. Ormsby.

W. L. Granville, Esq., Civil Architect, proposed by Dr. J. Anderson, seconded by Mr. M. H. Ormsby.

R. H. Curran, Esq., L. R. C. S. I. and L. K. & Q. C. P. I. Indian Medical Staff, proposed by Mr. V. Ball, seconded by Mr. M. J. Ormsby.

F. Wilcox, Esq., Bengal Police, Purulia, proposed by Mr. V. Westmacott, seconded by Dr. J. Anderson.

A. Oldham, Esq., C. E., E. B. Railway, proposed by J. M. Scott, Esq., C. E., seconded by J. P. Collis, Esq., M D.

The receipt of the following communications was announced.

4. From Lieutenant A. Pullan,—Remarks on some ancient ruins in the Gurhowl Bhatur.

5. From C. Horne, Esq.,—Notes on Mynpuri Villages, Asowle.

6. From W. T. Blanford, Esq., A. R. S. M., F. G. S.,—Zoological Notes.

At the request of the President, the following paper was read by the Author.

On the Jungle products used as articles of food by the inhabitants of the districts of Manbhoom and Hazaribagh (Chota-Nagpore.)—By V. BALL, *Esq. B. A., Geological Survey of India.*

In introduction, Mr. Ball said.—"Last year I read before the Society a short paper which was written from such material as I happened to have by me. It was intended merely to convey an idea of the means of support on which large numbers of the natives had to rely during the famine; the subject being one of particular interest at that time. During the past working season I have made systematic enquiries, and am now enabled to lay before the Society an approximately complete list of all the Jungle products used as articles of food."

The products are divided, in the list appended to the paper, under six headings, *viz.* fruits and seeds, flowers, leaves, stems, roots and fungi. These headings embrace upwards of 70 distinct species of plants, all of which yield more or less nutritious food. In most cases the Bengali and Hindustani names are given in addition to the Latin synonyms.

A full account of the particular uses, manner of preparation and value of the more important products formed the principal subject of the paper. According to the Author the various species are by no

means of equal value. While some furnish, so to speak, staple articles of food, others can only be regarded as edible, and in a few cases are even injurious, if eaten in large quantities.

The paper was illustrated by a collection of dried specimens which was inspected by the members.

The author, in answer to a question from the President as to whether he had understood him to say that a number of the people lived for a portion of every year on these products, replied that some of the aboriginal tribes, such as the Santhals and Coles, as well as the poorer classes of Hindoos, depend solely upon the jungle to furnish them with the means of subsistence for from two to three months of every year.

Several members asked questions in reference to the Mhowa and other plants, specimens of which were exhibited.

The Secretary then read Mr. Amery's paper on the origin of races, of which the following is an abstract.

Mr. Amery, in the earlier portion of his paper, enters at some length into the known facts of the distribution of animals and plants over the surface of the world in distant provinces, the relation of these provinces to climate, the representation of species in similar climate, the influence which altitude in ascending mountains has upon the fauna and flora, and the resemblance of the results to those observed upon the earth's surface in passing from the equator to the poles. It is also shewn that distinct forms occur in widely separated countries, of which the climate is similar, as in tropical Asia and tropical America, and that this is not due to the unfitness of each region for the support of foreign forms of life, since, in many cases, they thrive if introduced. In other instances, the same forms are found existing in widely separated regions, as in the case of the floras of Northern Europe, and that of the Western (?) slopes of the Himalayas. Hence it is inferred that neither soil, climate nor any existing conditions have influenced the distribution of the fauna and flora of the globe.

Some illustrations of the replacement of animals by distinct forms in other regions are then given. The author considers that there is a relation between the animals and plants, also between them and man of each region. Mankind, he considers as constituting a genus, comprising several well marked species, some of the peculiar characters

of which are illustrated in the physical and mental characters of the Australian, American-Indian, Negro, Mongol and Caucasian.

The aboriginal Australian has never learned to work in metals nor to till the land, nor does he learn in contact with the European. He is a hunter by nature, but his highest weapon is stone or bone tipped. He has not advanced to the fabrication of the bow and arrow. Had he come in contact with large carnivorous animals, the race would have been annihilated.

The Red man of America is a slight advance on him ; he uses the bow and arrow, tills the soil, and makes himself formidable to such animals as he comes in contact with. The African is a further advance. The Mongolian takes us over a vast moral and intellectual gulf. And lastly comes the Caucasian, the highest existant type, mentally and physically. The Author considers that every argument which has been advanced in support of the unity of the race will be found, if tested critically—a vain effort to reconcile facts with a preconceived theory. The colour of each race is shewn to be quite independent of climate to which it has been attributed ; the black Negro, red Indian and yellow Mongol maintaining closely the same complexion in tropical and temperate and even in some cases in Arctic climates ; while other physical peculiarities, such as the thick lips of the Negro and the facial peculiarities of the Mongol, are shewn to be equally persistent. The mental faculties of different races are equally marked and appear to have always been so. The child of a Yorkshire peasant can by education be made the equal of the most learned in the land, while the child of an Australian is only capable of learning up to a certain point. The writer of the book of Job, the oldest Caucasian record, was the equal in mental calibre of the great men of the present day. Hence, barbarian tribes belonging to a civilized race like the Caucasians, are capable of civilization, while races like the red Indian and the Tasmanian are not.

The geological record shews that in past times, changes in the relative position of land and sea took place, and that the fauna and flora of each region have been entirely changed several times. The author considers that " each distinct region of the dry land of the globe belongs to a distinct geologic era, that its fauna and flora represent the prevailing types of that era over all the land then above water,

and that remnants of every creation or nearly every creation, from the Permian era down, are left to shew what the earth was." New Zealand and Norfolk Island are especially cited as being a surviving remnant of the carboniferous epoch, or of a time immediately succeeding it. This is shewn by their monocotyledonous plants, palms, cycadeæ, and tree ferns, by the absence of quadrupeds, by the birds, the highest representatives of animal life, and by the fish in no way differing from the fossil representatives of the carboniferous age.

Australia appears to be the next oldest region; it has a fauna and flora distinct from that of New Zealand, and representatives of them are found in the European tertiary rocks. It contains no rocks of secondary age. The author considers that the causes of the differences from the fauna and flora of New Zealand are not explicable by the Darwinian theory, but that they must have been a new creation, which is now dying out before the animals and plants introduced by the white man. A similar distinction may be traced in America, Africa, the Malay land and Mongolia. Lastly comes the country of the Caucasian, resting upon the nummulitic rocks. Its upheaval wasted the previously divided Malay land, Africa and Mongolia, but it contains a fauna and flora distinct from those countries. The author states that the place of the nummulitic formation is not precisely determined, but that he is inclined to consider it a coast formation, contemporaneous with the chalk, a deep sea deposit.

The several types of man each occupy an area, corresponding to the different geological and botanical provinces, and the author thinks it improbable that he is not part of the same original creation. He points out, as a remarkable coincidence, that the race peopling every geologically newer region, is higher in the scale than the race of the next older region. The New Zealander is an exception, as the country appears to have been peopled by a Malay colony.

Mr. Ormsby said that he thought most of the facts brought forward by Mr. Amery had been known for a very considerable time. The idea of the organic remains in certain geologic formations in one part of the world being represented by the living flora and fauna of another is by no means new. Professor Owen, *in* his "Palæontology," (Ed. 1860, p. 307) compares the English oolite with Australia of the present day. He concludes his arguments by saying that the

animals and plants which now flourish in the Australian continent appear to complete a picture of the ancient condition of the earth's surface, which has been superseded in one hemisphere by other strata and a higher type of mammalian organization. Mr. Amery states as an evidence of the low condition of the aboriginal Australian that "his highest instruments are stone or bone tipped," and from this fact, in connection with others, appears to come to the conclusion, that the Australian man is an *animal* inferior to the Caucasian. Further, our author "would as readily believe in the Lamarkian or Darwinian theory of progressive development as in the descent of the Germanic and Australian races from one pair of parents." So far as this conclusion is derived from any arguments based upon the fact of the Australian savage using stone and bone tipped weapons, it is clearly untenable. Flint implements are found in abundance all over the surface of the globe, resembling in many respects those now used in Australia. This fact evidently does not prove that our ancestors who used these primitive instruments belonged to a lower species of men than we ourselves do. Mr. Amery surely can never have intended such a conclusion to be drawn from his interesting paper.

Dr. Colles said—"I do not think that any argument in favour of the former existence in Europe or elsewhere of a race similar to the modern Australians can be derived from the similarity between the flint weapons dug up in Europe and those used by the Australians at this day. In Argos and Etruria, in the earliest Irish churches, and in the ancient American buildings, we find precisely the same architectural style used, because in all these cases buildings were erected by men who found large stones ready to their hand, and had no occasion to make use of the arch—yet none but the wildest enthusiasts assert that the Peruvians and the Pelasgi are one race. Similarly, mankind in any country would be at first obliged to make their cutting instruments of stone, and, working with that material, would in every place turn out weapons much resembling each other. So men of the most different race have all, at one time or other of their history, been obliged to produce fire by rubbing sticks together, or to use the bow in hunting or warfare, for want of better expedients. The fact that bows are now used by the red men of America, and were used in England four hundred years ago, is no proof that England was inhabited by red men in the 15th century."

Mr. Waldie remarked that Dr. Colles's argument scarcely seemed complete. Mr. Amery would probably say that the higher types of man could make opportunities and create circumstances; the lower could advance only a certain length, he could carry improvements no further.

Mr. Justice Phear observed that the writer of the paper, would have greatly strengthened his illustration of the "Yorkshire Boy," if he had pointed to a living example of one in the position which he described, and could have shown that it justified his remark. So long as the instance adduced remained purely a matter of speculation, Mr. Phear was disposed very greatly to doubt, whether the boy, whose ancestors had in a continuous chain from the days of Canute to the present time invariably been peasants, and unable without exception to raise themselves out of the lowest social grade, would exhibit the comparatively superior intellectual capacity which Mr. Amery expected of him. And with reference to the colour of the skin used as an argument for diversity of origin, although it might be conceded that it is not a function of latitude or temperature, and not referable to exposure as a cause, still this did not leave it to be treated as unqualified evidence, without any reference whatever to its association with language. The fact that the darkest races of Asia and the fairest of Europe, exhibit a common bond of union in their language, introduces a difficulty in the way of solving Mr. Amery's problem, which that gentleman seems to have passed by unheeded. The paper everywhere appeared to disclose traces of hasty composition, and it would probably not be incorrect to conclude that it was written without opportunity for thoughtful reflection. It would hardly be fair to the author that it should be published in its present form.

Mr. Blanford said that Mr. Amery's paper had probably been written under the disadvantage of a want of any books of reference, even the most elementary. It was only possible in this way to account for the numerous errors it contained in matters of fact, such as the assertion that cervine animals abounded in Africa, or that the age of the nummulities was unknown. The principal theory insisted upon, that of the affinity between the fauna and flora of certain geological periods, and those of existing geographical provinces was not new, and it was easy to shew that it was merely apparent. The speaker proceeded to examine the case of New Zealand especially quoted by Mr. Amery. The only similarity between the carboniferous flora and

that of New Zealand is not, as asserted in the paper, the presence of monocotyledonous plants or cycads, the first of which are very rare and the latter barely represented in the coal flora, but in the very large percentage of ferns and conifers in each case; and this is merely a case of external resemblance, for the ferns and conifers are not the same, and those of New Zealand are no more closely allied to the genera and species of the coal than the conifers and ferns of other countries are. Turning from the flora to the fauna, the resemblance vanishes. It is not the fact, as stated by Mr. Amery, that no quadrupeds were found in New Zealand at the time of its discovery. A rat was met with, and if, by quadrupeds, mammalia were implied, it should not be forgotten that bats, including forms peculiar to New Zealand, are common, and that cetacea occur around the coast. The gigantic birds are as completely unrepresented in the carboniferous epoch as are the mammals, and the fish and mollusca inhabiting New Zealand at the present day are closely allied to those inhabiting other parts of the globe, and have no connexion with those found in carboniferous rocks; while the reptiles, fish and mollusca of the carboniferous epoch are in many instances, the two first especially, better represented in other parts of the world at the present day than in New Zealand. As regards man, Mr. Amery's idea of the Malay origin of the New Zealander would probably be a novelty to the members of the Society who had studied Ethnology. Indeed the whole of Mr. Amery's argument was based upon imperfect data. At the same time Mr. Blanford was quite willing to admit that the different races of mankind differed quite as much from each other as races of lower animals which have been universally considered distinct species, and that the idea of mankind being a genus comprising several different species was perfectly tenable, but he thought no evidence whatever had been brought forward to shew any connexion between these races and geographical or geological provinces. Some races of men, as the Mongolians, inhabited two or more regions, each possessing a distinct fauna and flora. In conclusion, Mr. Blanford believed that Mr. Darwin, in the chapters on geographic distribution in the "Origin of Species," had satisfactorily explained most of the phenomena alluded to in Mr. Amery's paper, despite Mr. Amery's somewhat contemptuous allusion to the "Darwinian theory."

Mr. Blanford then read a few extracts from his paper:—"Zoological Notes."

Library.

The following additions were made to the Library since the Meeting held in June last :—

Presentations.

Selections from the Records of the Madras Government.—The Government of Madras.

Bulletin de la Société de Géographie.—The Paris Geographical Society.

Schriften der Naturforschenden Gesellschaft in Danzig ; Neue Folge. Band I. Heft II. Beobachtungen der Magnetischen Declination in Danzig und Bemerkungen dazu, by E. Kayser.—Naturforschende Gesellschaft in Danzig.

Report on the Land Revenue Administration of the Lower Provinces for 1865-66.—The Government of Bengal.

The Annals of Indian Administrations, Vol. X pt. IV.—The Government of Bengal.

Natuurkundig Tijdschrift voor Nederlandsch Indie, uitgegeven door de Koninklijke Natuurkundige vereeniging in Nederlandsch Indie. Deel XXIX Afl. 2-4, 5-6.—The Batavian Society.

The Journal of the Bombay Branch of the Royal Asiatic Society, Vol. VIII. No. XIII. for 1863-64-65.—The Society.

The Journal of the Chemical Society, Oct., November, and December, 1866, January, February and March, 1867.—The Society.

Ten copies of a Review of "An Introduction to Kachchayana's Grammar of Pali Language, by J. D. Alwis Colon, 1863," by Professor A. Weber.—The Editor.

Actes de la Société d'Ethnographie, Tome I. Liv. 8.—The Society.

The Report of the British Association for the advancement of Science, Birmingham, 1865.—The British Association.

Architecture at Bejapoor.—The Government of India.

Architecture at Dharwar.—The Government of India.

Architecture at Ahmedanagar.—The Government of India.

Report of the Committee of the Bengal Chamber of Commerce, from 1st November, 1866, to 30th April, 1867.—The Bengal Chamber of Commerce.

Magnetical and Meteorological Observations made at the Government Observatory, Bombay in 1864.—The Government of Bombay.

Lecture on Military Gossip, by Captain T. C. Anderson.—The Author.

The Quarterly Journal of the Geological Society, No. 90, May, 1867.—The Geological Society of London.

Proceedings of the Royal Society of London, No. 92.—The Royal Society.

Natuurkundige Verhandelingen van de Hollandsche Maatschappij der Weteschappen te Haarlem; on the Peculiar Crania of the Inhabitants of certain Groups of Islands in the Western Pacific, by Dr. J. B. Davis.—The Author.

Purchases.

Revue des Deux Mondes, 1st and 15th April, 1st May, 1867.

Revue et Magasin de Zoologie, No. 3, 4, 1867.

The Annals and Magazine of Natural History, Vol. 19, No. 113.

The Edinburgh Review, No. 256.

Journal des Savants, February, April, 1867.

Comptes Rendus, Tome LXIV Nos. 13, 14, 15, 16, 17.

Reise der Oesterreichischen Fregatte Novara um die Erde in den Jahren, 1857, 1858, 1859, unter den Befehlen des Commodore B. von Wüllerstorf-Urbair; Linguistischer Theil, by Dr. F. Müller.

Ditto, Zoologischer Theil, Band I, Fische, Dritte Abtheilung, by Dr. R. Kner.

Reptilien, by Dr F. Steindachner.

Conchologia Iconica, by L. Reeve, pts. 262 and 263.

Gould's Birds of Asia, pt. XIX.

The Ibis, Vol. III No. 10 (new series).

The Numismatic Chronicle and Journal of the Numismatic Society, pt. I., 1867.

Wolf's Zoological Sketches, 2nd series, parts, XI and XII.

Exchange.

The Athenæum, April, 1867.

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

For August, 1867.

The Monthly General Meeting of the Asiatic Society of Bengal was held on Wednesday the 7th August, at 9 P. M.

Dr. J. Fayrer President, in the chair.

The minutes of the last meeting were read and confirmed.

Presentations were announced—

1. From Lieutenant-Colonel B. Ford: Imperfect skeletons of an adult and of a fœtal Dugong.

2. From Bábu Shib Chunder Shome: a copy of History of Orissa in Bengali.

3. From Colonel H. L. Thuillier: six copies of Major Tennant's paper on the Eclipse of August, 1868.

Three copies of Professor Airy's Notes on the Eclipse of August, 1868.

From Monsieur Le Chevalier Cristoforo di Negri, through Dr. C. F. Tonnerre, a copy of La Storia Politica Dell' Antichita paragonata alla moderna, 3 Vols.

4. From the Government of Bengal, four copies of extracts from the Proceedings of the Bombay Government.

Letters were read—

1. From the Government of Bengal in the Public Works Department, enclosing a copy of a report on an Earthquake felt in Sylhet at 1 P M. on the 2nd of February, 1867.

2. From the Secretary to the Government of the North Western Provinces forwarding a copy of a report on the tribes of Jhansie or Scherias of Lullectpore.

The following gentlemen, proposed and duly seconded at the last meeting, were balloted for and elected as ordinary members.

C. F. Amery, Esq.
T. H. Hughes, Esq., A. R. S. M., F. G. S.
W. L. Granville, Esq.
R. H. Curran, Esq.
F. Wilcox, Esq.
A. Oldham, Esq., C. E.

The following gentlemen are candidates for ballot at the September meeting.

1. The Rev. W. Fyfe, Superintendent of the Free Church Institution, Calcutta, proposed by Mr. W. S. Atkinson, seconded by Mr. M. H. Ormsby.

2. Captain V. Gauvain, Messageries Impériales, steamship Meinam, proposed by Mr. Grote, seconded by Colonel C. S. Guthrie.

3. A. J. Hughes, Esq. C. E., proposed by Mr. J. M. Scott, seconded by Mr. M. H. Ormsby.

4. Lieutenant Butler, Assistant Commissioner, Gowhatty, Assam, proposed by Mr. Locke, seconded by Mr. W. T. Blanford.

5. M. Place, Consul General of France, proposed by Mr. A. Grote, seconded by Mr M. H. Ormsby.

Dr. A. C. Macrae, whose retirement was announced in May, 1866, owing to a mistake, was reinstated in the list of members, from May last, the date of his arrival from England.

The following gentlemen have intimated their desire to withdraw from the Society.

Lieutenant W. Ramsden.
Captain M. Lloyd.
Lieutenant-Colonel H. Ballard, C. B.

The receipt of the following communications was announced—

3. From Lieutenant W. J. Williamson: "A Garrow Vocabulary."

4. From F. S. Growse, Esq., M. A. Oxon. B. C. S., "A translation into Latin Elegiacs of a Hindu Poem in the Saṭhá-Vilása."

The President then announced that Bábu Jádàva Krishna Singha, a member of the Philological Committee, died of apoplexy on the 23rd of July, at the early age of 35 years.

He joined the Society in 1851, and was soon after elected a mem-

ber of the Council, and was for more than three years a Vice-President. He was an amiable man of retired habits. He was a good Sanskrit scholar, and his loss is much to be lamented by the members of the Society.

The Secretary then read a paper on the Ethnology of India, by J. B. Davis, Esq. M. D., of which the following is an abstract.

Our author begins his paper by saying that the Ethnology of India is no new subject, but is of great interest, and is at the present time attracting considerable attention. The study of it may be said to date from the earliest advent of western science to the shores of the Ganges; and it is considered to have made great progress, for, upon the foundation then laid, a comprehensive hypothesis has been built, and is now all but universally received, which is almost as vast as the old world, and probably embraces nearly as many races of man as the ancients were acquainted with.

Sir William Jones, in his third discourse, said. "The Sanscrit language, whatever be its antiquity, is of a wonderful structure; more perfect than the Greek, more copious than the Latin, and more exquisitely refined than either; yet bearing to both of them a stronger affinity both in the roots of verbs and in the forms of grammar, than could possibly have been produced by accident; so strong indeed, that no philologer could examine all three, without believing them to have sprung from some common source, which, perhaps, no longer exists."—Ariana Antiqua, p. 122 &c.

Our author thinks it difficult to conceive of the argument respecting the Arian hypothesis as other than a suppositional and unstable foundation for the Indo-European hypothesis, the affinity of words being the strongest and surest material that enters into the composition. A competent philological authority has already said respecting one great branch of it:—"If the current views concerning what is called the eastern origin of the so-called Indo-Europeans are correct, they are so by accident; for they rest upon an amount of assumption far greater than that which the nature of the question either requires or allows."—Dr. R. G. Latham. Prickard's eastern origin of the Celtic Nations. Preface, p. vii.

However, assuming this foundation to be substantially true, an immense amount of learning has been expended in investigating

the different subjects of comparative philology, in order to show the descent of a great number of words of various languages from a Sanscritic source—from which it is inferred that the very varied races of people who spoke or still speak them are all of Arian origin. So that at length, the Indo-European hypothesis embraces as of one family the races of Europe and of India, *i. e.* the Brahmans, Kshatriyas and Vaisyas, with many intervening links. With recipients of this hypothesis all contradictory facts are at once silenced by the very position we have already quoted from Sir William Jones, that the languages "cannot be examined without believing them to have sprung from some common source." The conclusion alluded to is arrived at by transposing the argument from the subject of language to human races; if the languages had a common source, the people who have spoken, or who now speak them, are all intimately allied. The fact of the connection of or affinity in the languages is to a certain extent undeniable, but probably it admits of a rational and consistent explanation very different from the received one.

We do not venture to go into the question of the truth of so universally admitted a hypothesis as that of the Indo-European, for we are fully aware that great numbers of able and learned men in India are engaged in working out its details, and are daily discovering what are considered firm proofs of its validity. We shall limit ourselves to the suggestion, whether we can look with so much confidence upon the truth of this grand hypothesis, if there be good reason to conclude that the human race, instead of having had its cradle in Armenia, in any portion of Central Asia or elsewhere, and being left to its own inadequate struggles to diffuse itself all over the habitable globe, is, in the main, an aggregate of families formed by the hand of the Creator, in every different locality in which it is found, and each constituted by that wise Providence for the climate and productions with which it is surrounded.

A very distinguished physiologist, the favourite disciple of Blumenbach, Professor K. A. Rudolphi, long since pointed out that "a single human pair was certainly not fitted to people the whole earth. A wild animal or a disease equally might have defeated the object. This is not the way in which nature goes to work. In so important an affair as the peopling of the earth by men, she could not possibly

have risked all to so hazardous a chance."—Beytrage zur Anthropologie S. 147.

And the celebrated zoologist, Professor Louis Agassiz, has said: "We maintained, that, like all other organized beings, mankind cannot have originated in single individuals, but must have been created in that numeric harmony which is characteristic of each species; men must have originated in nations, as the bees have originated in swarms, and as the different social plants have at first covered the extensive tracts over which they naturally spread."—The Diversity of origin of the Human Races, p. 128.

Our author then proceeds to quote Sir Samuel Baker's paper on the races of the Nile basin. Trans Ethnological Soc. V. p. 237.

He gives a detailed account of the low mental and moral state of the inhabitants of the district, and concludes by enquiring whether we can venture to date from one common origin and claim this degraded creature as "*a man and a brother!*"

The question of colour next occupies our attention. Although the languages of the Indian and European races may be traceable to a Sanscrit source, yet one great race is black of various shades, and the other white of different shades, and they differ to an equal extent in their capabilities of intellectual development. To this it has been boldly replied that "no physiologist will insist upon difference of colour as an argument against the common origin of the European and Asiatic races." In proof of this, many instances of fair and handsome families of Asiatics are cited. Reference is then made to the Scriptural testimony enunciated in the words, "Can the Ethiopian change his skin or the leopard his spots?" In support of this view, our author mentions the facts that the descendants of the Dutch colonists in South Africa are as fair as ever, while the descendants of the negroes who settled 80 years ago in Nova Scotia are still the same negroes that they were at first; unfortunately with all the same intellectual and moral defects.

Our author then proceeds to state it to be his opinion that craniology affords a much more firm basis for ethnology than philology possibly can. If Europeans and Hindoos be of the same family, why cannot the former migrate to and live in India? How is it that the people of India are celebrated for the smallness of their heads,

while the inhabitants of Europe have large heads? The magnitude of the brain among Europeans is too well known to need any proof. How are these facts to be reconciled, if both these people are the direct descendants of one and the same remote ancestry? They could only be reconciled by unwarrantable suppositions which are contrary to knowledge; for, in truth, they are totally irreconcilable. Since the days of Campen and Blumenbach, the craniology of the human race has taken the first position in anthropology, man being preeminent among all other animals in the preponderant development of his cerebral system which gives him his place in nature, and is the centre of all his peculiarities; it is, therefore, the best interpreter of those essential differences that reign between the several races of men. The collection of the materials for the study of the craniology of India may be said to have yet to be commenced, although great numbers of educated men have abundant opportunities for such collection. In all other regions of the globe, craniology has been made the proper basis for anthropological researches. An able writer in the "Calcutta Review" for June 1856, pointed out that this great branch of the subject is still open for inquiry, and said that "a circle of Medical officers, say at Ootacamund, Ahmedabad (in Guzerat), Cuttack, Manbhoom, Beerbhoom, Hazareebagh, Bhagulpore, Darjeeling, Nipal, Mymensing, Assam, Sylhet, Cachar, Tipperah and Chittagong, acting in concert, might unravel the inquiry of the skulls in a twelvemonth." It is to be hoped that the circular printed in the last number of the "Annals," No. XXI. p. 394, will excite attention to this most important matter, and that the reproach will not much longer remain, of an entire want of craniological material for the anthropology of India. The author has already offered aid in carrying out such a project, and hopes that it will be eminently successful.

It is trusted that the cultivators of Indian philology will hail with satisfaction the conjunction of the efforts of those who pursue physical researches with their own, as there is much diversity of opinion upon some primary points of their inquiry which may be dissipated by the latter. It is hitherto an unsettled question whether the Tamulian tribes of Peninsular India ought to be regarded as aboriginal; some of the most learned and most diligent investigators consider them as such, and ally them closely with the Scythic or

Turanian tribes of the north. It is not at all too much to say that this question, with a number of others, may be satisfactorily illustrated by an adequate examination of their craniology, whenever the means for such shall be procured. Whether this hope may be realized is after all doubtful, when we look to another line of philological inquiry. It is an admitted fact among philologers that the division of mankind designated by them "Syro-Arabian" is physically identical with the Aryan section; still the two cannot be allied, because the languages of the two families utterly sunder them. This proves the false position that has come to be assigned to philological affinities and diversities; they are erroneously assumed to be of higher import than sameness or discrepancy of organization. So that if Indian Ethnologists are not prepared to allow the position here assumed for craniological researches, still it must be admitted that, regarding them merely as auxiliary to those based upon languages, they are of the utmost value and utility.

Mr. W. Blanford said:—

It appears to me that Mr. Davis falls into precisely the error against which he inveighs. He objects to the affinities of the European and Hindu races being decided by the question of language alone, yet he attempts to decide it by the size of their skulls. At least one half of the errors which exist in natural history classifications, are due to the vicious system, a system which cannot be too strongly reprehended, of depending upon some one peculiarity or some one organ alone, without regard to others. I believe questions of race are not to be decided by crania alone, and if so decided, the decisions will, I believe, be of but small value.

Mr. Davies does not appear to me either to have answered the strong arguments which exist in favour of the unity of races, nor to have brought forward any but old and well-worn arguments on the other side. Some of the latter I am surprised to listen to. The fact that negroes have bred truly for 80 years in Nova Scotia, simply shews that three generations of children may resemble their parents. On the other hand, the assertion that no change ever takes place in the intellectual faculties of a race, appears opposed to the history of some of the races now inhabiting Western Europe, which 3000 years ago were savages, little, if at all superior to the tribes of Central Africa at the present day.

Dr. J. Anderson said, leaving out of consideration the opinions which Dr. Davis had expressed on the much disputed theory of the origin of the so-called Arian races of India, he believed, that the chief object of the paper, now before the Society, was to direct the attention of Ethnologists in India to the importance of physical characters as a means of determining the affinities of race. Dr. Davis, from the whole tenor of his communication, is apparently impressed with the idea that, in India, philology has been studied to the exclusion nearly of the physical aspect of the enquiry, and the aim of his paper evidently is, to try and excite in the minds of Indian philologists an interest in the physical facts of ethnology. To this extent I agree with Dr. Davis, as there cannot be a doubt that physical ethnology has been much neglected in this country. Under the circumstances, I think we are indebted to Dr. Davis for calling our attention to the subject, and I have therefore much pleasure in proposing that we should award him a vote of thanks.

With regard to the facts which Dr. Davis has adduced in support of the importance of physical ethnology, and the stress which he seemingly places on the mere capacity of the cranium as a rare character, I think that many more telling facts might have been selected, and that Dr. Davis, in placing the capacity of the cranium so prominently forward, to the exclusion of any mention of its general form and relative proportions, has much understated the question at issue,—the comparative importance of philology and craniology in Ethnological enquiries.

What physical ethnology aims at, in making the cranium the subject of its enquiries, is to attain, by the accurate measurements of a large series of the crania of a race, an accurate conception of the general form and relative proportions and capacity of the skull, and having satisfactorily determined these points in a number of races, to proceed to classify them according to the similarities of their crania. However, I am certain Dr. Davis is quite as impressed with the importance of researches of this kind as we are, and I only regret that he did not state the question more strongly. I have much pleasure in proposing the vote of thanks.

Dr. Partridge seconded the proposition.

The Secretary then read the following paper.

Notes in reference to the question of the origin of the Aboriginal tribes of India.—By Emil Schlagintweit, corresponding member to the Asiatic Society of Bengal, &c.

The Hon'ble G. Campbell, in his so highly valuable motion respecting the aboriginal tribes of India, argues the fact that, though some resemblance is existing between the languages of the broken aboriginal tribes of India and the Tibetan* races, yet both groups are widely differing from each other in bodily appearance. It cannot be denied, that there exist many an expression in the aboriginal languages as well as in the Dravidian group which are very akin to Tibetan; more important it would be to be able to point out some striking analogies in the grammatical structure; for such comparisons, however, the measures recommended by Hon'ble G. Campbell, must supply us with the necessary materials in future. Greater analogies still can be pointed out between Tibetan and the languages of some of the tribes of the Indo-Chinese Peninsula; also here, however, the difference in the general aspect rather seems to intimate, that from mutual contact elements, finally foreign, have crept into languages, the bearers of which stand but in a very loose ethnological connection with the race from whom they have borrowed.† When looking out for similarities in manners, we find the Kakhyen tribe of northern Bôrma wearing the sword in the same strange way, by means of a wooden ring to which the sheath is fastened with ropes, as it is the custom amongst the Lingphos in Assam. The Kakhyens, moreover, have hereditary chiefs, and the high dignity of a ruler may even be held by a child, should it happen the government devolves upon him in time of in-

* I have adopted the spelling of "Tibetan" instead of "Thibetan" in conformity with Csoma Korasi, Foucaux, Hodgson, Jaeschke, Schiefner, Schmidt, &c. The word Tibet has resulted from the combination of the two Tibetan words *Thub* and *Phod* both meaning "to be able." A king of the 7th century is said to have at the first made use of this name; at present, however Bhod-yul, "territory of the Bhod," is the only name given by the inhabitants to the country. For further names see my "Kings of Tibet," Munich, Royal Bavarian Academy Index, *s. v.*

† This becomes evident by the interesting papers of Capt. T. R. Logan, "Ethnology of the Indian Pacific Islands," Journal of the Indian Archipelago, 1857, where numerous vocabularies are to be found; the coincidence is most remarkable in many instances; and Capt. Logan by the detailed analysis of these vast materials has to a great degree contributed to a better valuation of the variations. See also Schiefner Tibetische Studien, Mélanges Asiatiques, vol I; St. Petersburg, 1851, and my "Kings of Tibet," p. 6.

fancy; this practice reminds us of the system of incarnate priests in Tibet, where the seat of the Dalai Lama is taken, as a rule, by a mere child. It must be remarked, however, that the Tibetans distinguish the Kakhyens as a peculiar race, differing in language from that of the Shans and Bêrmese.*

But as regards definite conclusion, the comparison of the bodily appearance was duly pointed out as being of special importance. For the races in consideration here, this is the more unavoidable, since the linguistic affinity can be reduced in some degree to the influence of intermixture. Tibetans may have settled, by way of victory,† in parts of the Indo-Chinese Peninsula. But either they were few in number, or their reign was of short duration, as they have not left traces in the bodily proportions of these tribes.

In reference to general physical appearance, I wish to draw the attention to some striking differences shown by the face of a Tibêtan when compared with an aboriginal of India; these differences have become evident to me by the analysis of the casts‡ taken from living individuals by my brothers during their travels. If we take a Tibetan, Nos. 197—228 of the Catalogue, or a Gorkha of Nepal, as *e. g.* No. 25, and look at his profile, we find as a rule that the depression of the nose is so great that the curve of the eye is more prominent than the saddle, the upper beginning of the nose. Amongst the aboriginal tribes of Central India, such as the Gonds and Bhils, this depression is not met with, though the orbits are very prominent; the lower end of the nose is very flat and broad (see Nos. 117—182 of the Catalogue). In this respect the aborigines are not very greatly distinguished from the Aryan race, w hich the eyes always lower than the nose-line, but there is another peculiarity which I consider very typical for the race of the aborigines. Take a cast of an aboriginal, *e. g.* No. 133 (Gond), No. 139 (Bhil), No. 138 (Kol), and unite by lines;—

* See Dr. Williams's papers on the question of British trade with China viâ Burma, in the Asiatic Society's Journal, 1864.

† Such is the opinion of Logan; I must, however, add that in my studies of Tibetan historical books I have not found any written record relating to conquests so far south-east.

‡ A complete set of these casts, comprising 275 heads, 30 hands and 7 feet, has been put up also in your rich Museum by the liberality of the Government.

1st. The orbits at their most prominent part.
2nd. The outer corners of the eyes.
3d. The wings of the nose.
4th. The corners of the mouth.

These lines will be found far from being parallel: the angles are in some cases even very sharp. I suppose that the ugliness of these races is particularly due to the great deviation of these lines from parallelism; for with the Brahmans, *e. g.* No. 1, and the Europeans in general, we find a regularity very great, just for these lines. Also the face of a Tibetan is far from being as irregular as that of an aboriginal, but one is greatly reminded of an aboriginal, if the same experiment is made with the facial cast of a Negro, *e. g.* No. 173.*

I here limit myself to these few remarks which I shall be happy to see carried on to a larger scale, in the volume on the Ethnography of India, which forms part 8th of the "Results of a scientific mission to India and High Asia." Outlines of the entire series of casts, both in full and in profile, shall be given, as well as of the skulls and skeletons (83 in number), together with the numerous bodily measurements.†

As to facial expression of race, my experience has shown me that plastic casts offer a wider field of inquiry than mere photographs.

The process by which the casts are taken is a most simple one;‡ only plaster of Paris, about 5-7 lbs. for each face, is wanted. The individual in question lies down on the ground, a writhed handkerchief is bound behind the ears to prevent the plaster from running down to the ground. Two paper-cornets, moist at the ends, for preventing irritation and sneezing, are put into the nose for allowing free breathing. Before the plaster is laid over the

* When skulls are compared in all their directions, analogous instances become evident and even more apparent still.

† Some of these measurements, which exceed the sum of 400, have been given in my "Buddhism in Tibet," Chapter XIV. For an analysis of the skulls brought home by my brothers, see Professor Velker's "Chronologische Mittheilungen, No. 7 of the Memoirs published by the German Anthropological Society, founded 1865. This series contains specimens of the following Indian castes and tribes: Rajputs, Lepchas, Ganges-Mussalmans, Thakurs, Sikhs, Bhots of Tibet, Kashmirs, Bhils, Gonds, Kols, Nagas, Khassias, Singalese, Gorkhas, Himalaya Bhots, Brahmans, Bais, Sudras.

‡ This series comprises 27 individuals; viz. Herbes, Rifs, Mauros, Sus, Zuariks, Negros, African Jews. The heads as well as the facial casts have been as usually reproduced in metal, and are supplied by John Amb. Barth at Leipzic, at the price of £6 for an entire head (face and occiput).

face, which is done by means of a spoon, the face is to be carefully smeared over with oil or clarified butter, in order not to draw up with the plaster the hairs from the head; the beard, particularly, is to be preserved by stiff pomade of some kind. Our brother Edward, a Bavarian officer lately killed in the battle of Kissingen, succeeded, when in Morocco, in making casts of the back of the head also. For this purpose he found it of great use to cover the hair with thin oiled muslin. The back of the head was made first, then the borders were flattened with a knife, and all duly oiled; the head was placed again in this part of the mould for making the face and part of the breast; thus he obtained a true copy of the head. About 15 pounds of plaster are wanted for an entire head and part of the breast.

Dr. Anderson said that he felt quite uncertain as to what was attempted to be proved in the paper just read. If the object was to detect a similarity of race by the comparison of characters derived solely from the external face, he dissented entirely from the adoption of any such system in Ethnological research. The facial characters, when taken by themselves, as M. Schlagintweit has done from casts, which give not the slightest inkling of the form of the cranium, can lead to no very sound generalization in Ethnology, and indeed the more we restrict ourselves to one character as our guide, in proportion will be our liability to increase in error.

Believing that much weight cannot be attached to facial casts as an aid to Ethnological study, I commenced three years ago the formation of a series of life busts, to illustrate in the Indian Museum the external characters of the head and face of the various Indian races. The busts were taken from life, and the plan I adopted, appears to differ little from that which Mr. Schlagintweit has lately followed. It is this:—I make the subject lie down on a charpoy, and support his shoulder and head with a couple of pillows, over which a loose cloth is laid and tucked in round the head, neck and shoulders, to prevent the plaster spreading too much when it is poured on. Before making the subject lie down, I first thoroughly anoint his face, neck and shoulders and chest with oil, and his beard, moustache, eyelids, eyebrows and the hair of his head with butter, which should be laid on unsparingly on these parts, to prevent their adhering to the plaster. When the anointing has been

completed, I place a tube on to each nostril, to allow of respiration when the face is covered with plaster, and I plug the ears. He is then made to recline on the charpoy in the manner I have indicated, and a well oiled cord is laid along the neck from the shoulder in front of the ears and over the top of the forehead to the shoulder on the other side, the ends are allowed to hang down the shoulders a little way. The eyes being gently but firmly closed and the quills in the nostrils, the plaster is poured over the face, neck and as much of the head as can be reached without interfering in the least with the position of the patient; when the plaster is beginning to set, the ends of the string which passes from shoulder to shoulder are laid hold of by the two ends and pulled towards each other, thus separating the head and facial portions of the cast from one another; when the latter has hardened it is carefully removed and the man can then open his eyes and breathe naturally. With the former portion still remaining on the head and part of the shoulders, he is made to sit up, and the back of the head and neck; is well smeared with butter, and another well oiled string is placed along the posterior margin of the still adherent portion of the cast. The plaster is then poured on to the back of the head and neck; and when it has commenced to harden, it is separated from the remaining portion of the first cast by pulling the ends of the string towards each other. These two pieces are then removed, and the three are found to fit to each other in the most perfect manner. The process is thus completed; I have found it attended with little or no difficulty, and as I have manipulated on a number of hill tribes who are generally difficult people to manage, I fully expect to be able, through time, to have life busts of all the accessible Indian races.

These busts will prove of considerable value when crania cannot be obtained, and there is no country in the world in which the craniologist finds greater difficulty in obtaining materials for study than India, where the inhabitants either burn their dead or regard their remains with superstitious awe.

Dr. Partridge, as Secretary to the Falconer Memorial Committee, presented a marble bust of the late Dr. H. Falconer to the Asiatic Society. He stated that 44 members of the Society had subscribed Rs. 20 each for the purchase of the bust, and two subscriptions have yet to be realized, but even then a balance of Rs. 110 would be still due

to meet the excess of expenditure over receipts. He therefore appealed to the members for additional subscriptions which he hoped would suffice, not only to meet the balance due, but also enable the Society to purchase a suitable pedestal.

LIBRARY.

The following additions were made to the Library since the Meeting held in July last :—

PRESENTATIONS.

Annales Musei Botanici Lugduno-Batavi, by F. A. Guil. Miquel. Tome II. Fasc VI. to X.—THE AUTHOR.

Actes De La Société D'Ethnographie, 5th Avril, 1867.—THE SOCIE'TE' D'ETHNOGRAPHIE.

Three copies of Memoranda on the Solar Eclipse of 18th July, 1860, and Data to aid in the observation of the Solar Eclipse of 17th August, 1868.—THE SURVEYOR GENERAL OF INDIA.

Annual Report on the condition and management of the jails in the North-Western Provinces for 1866.—THE GOVERNMENT OF THE NORTH-WESTERN PROVINCES.

Mémoire de la Société Impériale des Sciences Naturelles de Cherbourg, Vols. XI. and XII.—THE SOCIE'TE'.

Six copies of Memoranda on the Eclipse of August, 1868, by Major F. Tenant :—THE AUTHOR.

Two copies of Catalogue of the Mollusca in the collection of the Government Central Museum, Madras.—CAPTAIN J. MITCHELL.

Report of the Revenue survey operations of the Lower Provinces for 1865-66.—THE GOVERNMENT OF BENGAL.

Memoirs of the Geological Survey of India, Vol. VI. pt. I. Mr. Blanford's Geology of Cutch.—THE GOVERNMENT. OF INDIA.

Bulletin de la Société de Géographie, Mai, 1867.—THE GEOGRAPHICAL SOCIETY OF PARIS.

Four copies of Extract from the Proceedings of the Government of Bombay in the General Department, dated 27th June, 1867.—THE GOVERNMENT OF BENGAL.

Vividha Jnán Vistára, No. I.—THE EDITOR.

The Coal resources and Productions of India, by Dr. T. Oldham.—THE GOVERNMENT OF INDIA.

A History of Orissa in Bengali, by Shib Chunder Shome.—The Author.

The Journal of the Chemical Society, April, May, and June, 1867.—The Chemical Society of London.

Reise der Oesterreichischen Fregatte Novara um die Erde in den Jahren 1857, 1858, 1859. Linguistischer Theil, by Dr. F. Muller :—K. K. Ministerium des Innern zu Vien.

Proceedings of the Royal Geographical Society of London, Vol. XI. No. II.—The Royal Geographical Society of London.

Proceedings of the Academy of Natural Science of Philadelphia. January to December, 1866.—The Academy of Natural Sciences of Philadelphia.

Journal of the Academy of Natural Sciences of Philadelphia, Vol. VI. pt. I.—The Academy of Natural Sciences of Philadelphia.

Brief sketch of the gold, silver and copper coinage of Mysore by Lieut. H. P. Hawkes.—Colonel C. S. Guthrie.

Annals of Indian Administration, pts. I. and II. Vol. XI.—The Government of Bengal.

Annual report upon Vaccination in the North-Western Provinces.—The Government of the North-Western Provinces.

ডুপ্‌সির অর্থ কি? translated by Nandalala Dhol.—The Translator.

Purchase.

The Indian Medical Gazette, Vol II. No. 8.

The Annals of Indian Medical Science. No. XXII.

The Annals and Magazine of Natural History, June, 1867.

Revue des Deux Mondes, May, and 1st June, 1867.

Comptes Rendus, Nos. 18, 19, 20 and 21.

Le Livre de L'Agriculture D'Ibn-Al-Awam by J. J. Clement Mullet, Vol. II. pts. 1 and 2.

Catalogue Général de la Libraire Française, Livr. 4.

Journal des Savants, Mai 1867.

Exchange.

The Athenæum, May 1867.

ABSTRACT STATEMENT

OF

RECEIPTS AND DISBURSEMENTS

OF THE

ASIATIC SOCIETY,

FOR

THE YEAR 1866.

STATEMENT

Abstract of the Cash Account

RECEIPTS.

				1866.			1865.		
ADMISSION FEES.									
Received from New Members, Rs.	1,280	0	0						
				1,280	0	0	928	0	0
CONTRIBUTIONS.									
Received from Members, ...	8,676	0	0						
				8,676	0	0	9,445	0	0
JOURNAL.									
Sale proceeds of, and Subscription to the Journal of the Asiatic Society, ...	1,285	10	0						
Refund of Postage Stamps, ...	31	10	0						
Ditto of Packing Charges, ...	3	7	0						
Ditto of the amount from the Baptist Mission Press, overpaid in Bill No. 13438, being the cost of 6 Copies of Journal No IV. 1864, ...	6	6	0						
				1,327	1	0	758	1	0
LIBRARY.									
Sale proceeds of Books, ...	586	0	9						
Refund of Freight, ...	12	2	0						
Ditto of the amount paid for a of copy Owen's Comparative Anatomy, Vol. I., ...	12	0	0						
				610	2	9	193	15	0
MUSEUM.									
Received from the General Treasury at 500 Rs. per month, from December, 1865 to April, 1866,	2,500	0	0						
Savings of salary, ...	41	0	3						
Refund in part of the Contingent Expenses, ...	2	6	0						
Ditto of the amount paid from the Contingent Account in March and April to Harry, Taxidermist,	40	0	0						
Ditto in part of the amount paid to Dr. J. Anderson for Medicine by Messrs. Bathgate and Co.'s bill on the 22nd May, 1866, ...	5	13	0						
				2,589	3	3	6,037	13	
SECRETARY'S OFFICE.									
Refund of Postage Stamps, ...	17	10	0						
Ditto of Packing Charges, ...	0	7	0						
Savings, ...	4	0	0						
Discount on Postage Stamps, ...	0	7	0						
Refund of Freight, ...	0	5	0						
				22	13	0	34	7	0
General Establishment, ...				17	1	0	1	14	9
Carried over, Rs.				14,522	5	0			

No. 1.

of the Asiatic Society for 1866.

DISBURSEMENTS.

				1866.			1865.		
JOURNAL.									
Freight, ...	Rs.	113	11	0					
Printing Charges, ...		1,729	9	0					
Commission on Sale of Books, ...		16	2	1					
Purchase of Postage Stamps, ...		194	10	0					
Packing Charges, ...		28	4	0					
Lithographing and Engraving Charges, &c., ...		705	4	3					
Purchase of a copy of Journal Supplementary Number, Vol. 15,		1	0	0					
Petty Charges, ...		11	7	6					
					2,799	15	10	3,272	4 3
LIBRARY.									
Salary of the Librarian, ...		840	0	0					
Establishment, ...		84	0	0					
Salary for preparing a revised Catalogue, ...		500	0	0					
Purchase of Books, ...		375	3	3					
Ditto of a Standford Library Map of Asia on roller, ...		35	0	0					
Ditto of Album of Photographs of Shâhanâ, ...		125	15	6					
Mounting 4 Sheets of german Map of Asia on roller, ...		5	0	0					
Purchase of a set of Photographs of Cashmire, ...		42	0	0					
Ditto of a set of ditto, ...		140	0	0					
Ditto of 27 Photograph Views, ...		69	0	0					
Book-Binding, ...		263	14	0					
Landing Charges, ...		14	10	6					
Commission on Sale of Books, ...		40	13	2					
A Blank Book, ...		5	0	0					
Freight, ...		3	4	0					
Salary of Office Punkha-man, .		40	0	0					
Ditto for preparing List of the Duplicate Books, ...		40	0	0					
Ditto of ticca Duftory, ...		12	4	3					
6 Dusters for cleaning books, ..		1	12	0					
Prepairing two Teak wood Book cases, ...		682	8	0					
Purchase of Custom Stamps, . .		3	0	0					
Petty Charges, ...		23	4	3					
Subscription to the Indian Medical Gazette, ...		15	0	0					
		3,361	8	11				2,576	9 6
Purchase of Books through Messrs. Williams and Norgate, London,		1,889	1	10					
					5,250	10	9		
	Carried over, Rs.				8,050	10	7		

RECEIPTS.

				Brought over, Rs.			14,522	5	0	
VESTED FUND.										
Sale proceeds of Government Securities, ...			7,500	0	0					
Interest on ditto, ...			255	0	6					
Premium on ditto, ...			387	8	0					
							8,142	8	6	337 8 0
COIN FUND.										
Sale proceeds Silver Coins, ...			5	0	0					
							5	0	0	236 15 6
BABU POORNO CHUNDER BYSACK.										
Refund in part of the amount advanced for Contingent Expenses, ...			1,648	8	6					
							1,648	8	6	762 15 3
MESSRS. WILLIAMS AND NORGATE.										
Sale proceeds of Books on their account, ...			4	4	0					
							4	4	0	
MAJOR-GENL. CUNNINGHAM.										
Refund of Packing Charges,			0	6	6					
							0	6	6	
J. H. BATTEN, ESQ.										
Refund of the amount advanced,			2	9	0					
								9	0	
HARRY, TAXIDERMIST.										
Refund of the amount advanced,			103	0	0					
							103	0	0	
CAPTAIN M. W. CARR.										
Received from him in Deposit,			3	12	0					
							3	12	0	
MAJOR A. S. ALLAN.										
Received from him in Deposit,			7	4	0					
							7	4	0	
JAMES BEAMES, ESQ.										
Received from him in Deposit,			0	12	0					
							0	12	0	
CAPTAIN C. MACGREGOR.										
Refund of Banghy Expenses and Postage Stamps for sending Library Books, ...			5	3	0					
							5	3	0	
REV. H. A. JÆSCHKE.										
Sale proceeds of a Copy of Tibetan Grammar on his account, ...			1	0	0					
							1	0	0	
GOVERNMENT NORTH WESTERN PROVINCES.										
Refund of freight for sending Journal and Proceedings for 1865, ...			16	5	0					
							16	5	0	
CAPTAIN H. H. G. AUSTEN.										
Refund of the amount paid for sending Library Books, ...			15	10	0					
							15	10	0	
				Carried over, Rs.			24,478	7	6	

DISBURSEMENTS.

				Brought over, Rs.			8,050	10	7	
MUSEUM.										
Salary of the Sub-Curator,	...		500	0	0					
Establishment,	...	...	320	10	6					
Extra Taxidermist's Salary and Contingent Pay,	...	...	1,742	13	11					
Contingent Expenses,	...		2,596	7	7					
Advertising Charges,	...		3	12	0					
Paid Messrs Higgs and Haldar, for white Satin Painting, to Museum Cases,	...	...	478	14	9					
Ditto ditto for Stands, Railing and Painting,	...	...	363	14	6					
Ditto ditto for making an animal stand, and taking up and re-setting in brick, &c. &c.,	...		78	0	0					
Ditto ditto for Asphalting two rooms and renewing glasses to the Almirah and Sash door, &c.,	.		159	10	0					
Printing 500 Copies of Circular,	.		15	0	0					
Engraving 3 sets of Figures on Brass with Handle for branding the specimens of the Museum,			13	8	0					
							6,272	11	3	6,468 3 6
SECRETARY'S.										
General Establishment,	...		403	8	0					
Secretary's Office Establishment,			1,068	0	0					
Purchase of Postage Stamps,	...		128	7	0					
Stationery,	..	...	139	5	6					
Purchase of Blank Books,	...		7	4	0					
Insufficient Postage.	...		6	3	3					
Printing Charges,	...	...	12	0	0					
Repairing a Tin Almirah,	...		8	0	0					
Petty Charges,	...	...	11	6	6					
							1,784	2	3	2,319 13 3
VESTED FUND.										
Purchase of 5½ per cent. Government Securities,	...	...	3,000	0	0					
Interest on ditto,	...	...	13	12	0					
Premium on ditto,	...	...	232	8	0					
Commission on ditto,	...		22	8	0					
Brokerage on ditto,	..	...	9	6	0					
Commission to the Bank of Bengal for drawing Interest on the Government Securities,	...		0	7	10					
Fee for renewing Government Securities,	...	...	6	0	0					
							3,284	9	10	0 13 6
COIN FUND.										
Purchase of Coins,	...	...	310	0	3					
Ditto of a fire-proof Treasure Chest with Cooly-lure,	...	..	133	0	0					
Preparing an under Case of ditto with ditto,	...	...	30	0	0					
Cocoanut Oil for cleaning Coins,	.		0	3	0					
							503	3	3	386 11 9
				Carried over, Rs.			19,895	5	2	

RECEIPTS,

		Brought over, Rs.			24,478	7	6	
MOTHOOR MOHUN KUR.								
Refund of the amount paid him as advance for preparing two book cases, ...		200	0	0				
					200	0	0	
E. T. ATKINSON, ESQ.								
Refund of Banghy Expenses and Postage Stamps for sending Library Books, ...		8	0	0				
					8	0	0	
								3 8 0

Carried over, Rs. 24,686 7 6

DISBURSEMENTS.

				Brought over, Rs.	19,895	5	2			
BUILDING.										
Assessment, ...	...	480	0	0						
Ditto for Lighting, ...	...	96	0	0						
Repairing, ...	...	1,858	15	0						
An Iron shed erected in the compound of the Society,	...	200	0	0						
					2,634	15	0	2,340	7	6
MISCELLANEOUS.										
Salary of the Mally,...	...	57	0	0						
Advertising Charges,	...	6	0	0						
Meeting Charges, ..	...	179	3	6						
Purchase of Receipt Stamps,	...	12	0	0						
Paid 25 per cent. increase of Salaries for 6 months,	...	55	11	0						
Ditto W. H. Johnson, Esq., for a Tea pot Khokan, ...	..	8	0	0						
Fee to the Bank of Bengal for Stamping cheques,	...	3	2	0						
Petty Charges, ...	...	11	1	3						
					362	4	9	265	12	3
MUSEUM TRANSFER ACCOUNT.										
Printing 25 Copies of Act of the British Parliament,	...	20	0	0						
					20	0	0	58	0	0
ETHNOLOGY COMMITTEE.										
Paid Banghy Expenses for sending a parcel of Official Papers, .		0	12	0						
Copying Report forwarded by the Government of Bengal on various Human Races,	...	10	0	0						
A Blank Book for Proceeding,	...	2	8	0						
					13	4	0			
BABU POORNO CHUNDER BYSACK.										
Paid advance on the Contingent Expenses for the Museum,	...	1,115	0	0						
					1,115	0	0	1,045	0	0
JAMES BEAMES, ESQ.										
Paid Postage Stamps for sending Library Books, ...	...	4	1	0						
					4	1	0			
CAPTAIN MACGREGOR.										
Paid Banghy Expenses and Postage Stamps for sending Library Books, ...	...	5	3	0						
					5	3	0			
GOVERNMENT NORTH WESTERN PROVINCES.										
Paid Railway Freight for sending Journal and Proceedings,	...	14	8	0						
					14	8	0	16	5	0
CAPTAIN H. H. G. AUSTEN.										
Paid Banghy Expenses for sending Library Books,	...	12	0	0						
					12	0	0	3	4	0
MESSRS. WILLIAMS AND NORGATE.										
Paid freight for Sending their Books,		8	0	0						
					8	0	0	385	12	0
				Carried over, Rs.	24,414	8	11			

RECEIPTS.

Brought over, Rs. 24,686 7 6

Carried over, Rs. 24,686 7 6

DISBURSEMENTS.

				Brought over, Rs.	24,414	8	11	
Mothoor Mohun Kur.								
Paid advance for preparing two Book Cases, ...	200	0	0					
Ditto ditto for an inner case of the New Iron Safe for Coins,...	45	0	0					
					245	0	0	
E. T. Atkinson, Esq.								
Paid Bearing Banghy on a parcel of Library Books returned by him, ...	3	0	0					
Ditto Banghee and Railway freight for sending Library Books, &c., .	9	10	3					
					12	10	3	3 8 0
Professor G. Buhler.								
Paid Banghy Expenses for sending MSS. and Library Books to Poona, ...	9	2	0					
					9	2	0	
J. H. R. Carnac, Esq.								
Paid Tin Box and Banghy Expenses for sending Library Books,	9	10	6					
					9	10	6	
P. Carnegy, Esq.								
Purchase for him a Copy of Prehistoric man, No. 1, ...	1	0	0					
					1	0	0	
Colonel E. T. Dalton.								
Paid Banghy Expenses and Postage Stamps for sending Library Books,...	8	15	0					
					8	15	0	
F. H. Cooper, Esq.								
Paid Bearing Banghy, on a parcel of Asiatic Society's Journal returned by him, ...	2	8	0					
					2	8	0	
Elphinstone Institution.								
Paid Banghy Expenses for sending Journals, ...	2	0	0					
					2	0	0	
J. H. Ravenshaw, Esq.								
Paid Banghy Expenses for sending Library Books, ...	1	13	0					
					1	13	0	
Dr. J. P. Wise.								
Paid Postage Stamps for sending Library Books, ...	0	12	0					
					0	12	0	
H. Beverly, Esq.								
Paid Postage Stamps for sending Library Books, ...	0	13	0					
					0	13	0	
				Carried over, Rs.	21,708	12	8	

RECEIPTS.

			Brought over, Rs	24,686	7	6
BALANCE OF 1865.						
In the Bank of Bengal,	817	3	0			
Cash in hand,	103	2	7			
				920	5	7
			Rupees,	25,606	13	1

Examined,
Sd. PROTAP CH. GHOSHE,
Asst. Secry.
Asiatic Society Bengal.

Errors and Omissions Excepted,
Sd. BUDDINATH BYSACK,
Cash Keeper,
Asiatic Society Bengal.

Examined and found Correct.
Sd. DAVID WALDIE, } *Auditors.*
Sd. S. H. ROBINSON, }

DISBURSEMENTS.

				Brought over, Rs.	24,708	12 8
G. E. Ward, Esq.						
Paid Postage Stamps for sending Library Books,		0	14	0		
					0	14 0
W. Irvin, Esq.						
Paid Tin box and freight for sending Library Books,		3	13	3		
					3	13 3
Balance.						
In the Bank of Bengal,		830	2	0		
Cash in hand, ...		63	3	2		
					893	5 2
				Rs.	25,606	13 1

Examined,

Sd. Protap Ch. Ghoshe,
Asst. Secry.
Asiatic Society Bengal.

Errors and Omissions Excepted.

Sd. Buddinath Bysack,
Cash Keeper,
Asiatic Society Bengal.

Examined and found correct.

Sd. David Waldie,
Sd. S. H. Robinson,
} *Auditors.*

STATEMENT
Abstract of the Cash

RECEIPTS.

				1866.			1865.		
ORIENTAL PUBLICATIONS.									
Received by sale of Bibliotheca Indica, ...	2,455	0	0						
Ditto by Subscription to ditto, ...	33	4	0						
Ditto by sale of White Yajur Veda,	38	0	0						
Refund of Postage Stamps, ...	21	6	9						
Ditto of Packing Charges, ...	1	1	3						
				2,548	12	0	1,573	9	9
GOVERNMENT ALLOWANCE.									
Received from the General Treasury at 500 Rs. per month, 12 months, ...	6,000	0	0						
				6,000	0	0	6,000	0	0
VESTED FUND.									
Received Interest on the Government Securities from the Bank of Bengal, ...	442	8	0						
				442	8	0	442	8	0
CUSTODY OF ORIENTAL WORKS.									
Saving of Salary, ...	1	13	9						
				1	13	9	10	7	9
BABU NOBIN CHUNDER ROY.									
Received from him on Deposit, ...	2	8	0						
				2	8	0			
C. SESHADRI S'ASTRI.									
Received from him on deposit, ...	8	11	0						
				8	11	0			
K. ROGHUNATH ROW.									
Received from him on deposit, ...	22	4	3						
				22	4	3			
KUBI HERA CHUND KANJEE.									
Received from him on deposit, ...	265	15	0						
				265	15	0			
HOLACUL NARASIMINEAH, ESQ.									
Received from him on deposit, ...	23	4	0						
				23	4	0			
R. T. H. GRIFFITH, ESQ.									
Received from him on deposit, ...	74	6	0						
Refund of Postage Stamps paid for sending Bibliotheca Indica,	3	0	0						
				77	6	0			
BABU KALLY COOMAR MITTER.									
Received from him on deposit, ...	2	13	0						
				2	13	0			
Carried over, Rs.				9,395	15	0			

No. 2.

Oriental Fund for 1866.

DISBURSEMENTS.

				1866.			1865.		
ORIENTAL PUBLICATIONS.									
Commission on the sale of Books,	169	3	0						
Freight, ...	189	2	0						
Packing Charges, ...	44	14	3						
Purchase of Postage Stamps,	48	14	6						
Petty Charges, ...	4	11	6						
				456	13	3	456	7	3
VESTED FUND.									
Paid Commission to the Bank of Bengal for drawing Interest on the Government Securities, ...	1	1	8						
				1	1	8	1	1	8
CUSTODY OF ORIENTAL WORKS.									
Salary of the Librarian, ...	360	0	0						
Establishment, ...	72	0	0						
Salary of Dufrory, ...	96	0	0						
Book Binding, ...	31	2	0						
Books cleaning, ...	75	0	0						
Fee paid to the Bank of Bengal for Stamping Charges, ...	3	2	0						
Carpenter, Iron Nails and Screws for Suspending Shelves for the Bibliotheca Indica, ...	25	0	0						
Sundry charges for removing Bibliotheca Indica to St. Paul's School, ...	124	2	0						
Extra Writer's Salary,	29	13	9						
Paid 25 per cent. increase of salaries for 6 months,	30	0	0						
Purchase of Stationery,	16	0	0						
Petty Charges, ...	7	12	0						
				869	15	9	776	13	3
LIBRARY.									
Purchase of Books,	517	8	0						
Landing Charges,	3	4	9						
Binding 99 Sanskrit MSS. purchased from Benares,	39	6	0						
				560	2	9	205	0	0
PUNDIT CHHOTOO RAM TEWARI.									
Paid on his deposit,	3	8	6						
				3	8	6			
DR. M. HAUG.									
Paid on his deposit, ...	0	10	0						
				0	10	0			
KUBI HERA CHUND KANJEE.									
Paid on his deposit, ...	41	0	0						
				41	0	0			
Carried over, Rs.				1,933	3	11			

RECEIPTS.

Brought over, Rs. 9,395 15 0

Carried over, Rs. 9,395 15 0

DISBURSEMENTS.

Brought over, Rs.						1,933	3	11	
R. T. H. Griffith, Esq.									
Paid Postage Stamps for sending Bibliotheca Indica, ...		3	0	0					
						3	0	0	
Babu Kally Coomar Mitter.									
Paid on his deposit, ...		1	4	0					
						1	4	0	
Colonel E. T. Dalton.									
Paid Registering fee and postage for sending MSS. to Chhota-Nagpore, ...		0	11	0					
						0	11	0	
Ayin i Akbari.									
Purchase of 5 copies of Ayin Akbari from Lt. Waterhouse, ..		226	4	0					
Printing with paper for circular for collecting MSS. of ditto, ...		8	0	0					
Clearing on a parcel of ditto containg MSS. from Dr. Leitner,		15	0	0					
						249	4	0	18 5 0
Pali Grammar.									
Purchase of Printing Demy Papers for, ...		154	1	6					
Freight and Packing Charges for sending ditto, ...		13	5	9					
						167	7	3	
Biographical Dictionary.									
Editing and Printing Charges, ...		468	0	0					
						468	0	0	760 0 0
Alumgiri Namah.									
Editing and Printing Charges, ...		2,628	0	0					
Freight, ...		6	4	6					
						2,634	4	6	
Mimansa Darsana.									
Editing and Printing Charges, ...		762	0	0					
						762	0	0	237 0 0
Nyaya Darsana.									
Printing Charges, ...		292	6	0					
						292	6	0	756 0 0
Taittiriya Brahmana.									
Editing and Printing Charges, ...		368	0	0					
						368	0	0	144 0 0
Aswalayana Srauta Sutras.									
Editing and Printing Charges, ...		416	0	0					
						416	0	0	1,376 0 0
Kamandaki.									
Editing Charges, ...		96	0	0					
						96	0	0	224 0 0
Taittiriya Aranyaka.									
Editing and Printing Charges, ...		365	0	0					
						365	0	0	512 0 0
Brihat Sanhita.									
Printing Charges, ...		462	10	0					
						462	10	0	902 0 0
Carried over, Rs.						8,219	2	8	

RECEIPTS.

				Brought over, Rs.	9,395 15 0
BALANCE OF 1865.					
In the Bank of Bengal,	...	519	8 6		
Cash in hand, ..	...	5	8 5		
					525 0 11

Rs. 9,920 15 11

Examined,
Sd. PROTAP CH. GHOSHE,
Asst. Secry.
Asiatic Society Bengal.

Errors and Omissions Excepted.
Sd. BUDDINATH BYSACK,
Cash Keeper,
Asiatic Society Bengal.

Examined and found Correct.
Sd. DAVID WALDIE,
Sd. S. H. ROBINSON, } *Auditors.*

DISBURSEMENTS.

				Brought over, Rs.	8,219	2 8
BADSHAH NAMAH.						
Editing and Printing Charges, ...	876	0	0			
					876	0 0
ASWAYAYANA GRIHYA SUTRAS.						
Editing Charges, ...	96	0	0			
					96	0 0
TAITTIRIYA SANHITA.						
Editing Charges, ...	120	0	0		120	0 0
SANKHYA APHORISM OF KAPILA.						
Printing Charges, ...	208	12	0			
					208	12 0
DASA RUPA.						
Printing Charges, ...	227	8	0			
					227	8 0
					9,747	6 8
BALANCE.						
In the Bank of Bengal, ...	171	4	10			
Cash in hand, ...	2	4	5			
					173	9 3
				Rs.	9,920	15 11

Examined,
Sd. PROTAP CH. GHOSHE,
Asst. Secy.
Asiatic Society Bengal.

Errors and Omissions Excepted,
Sd. BUDDINATH BYSACK,
Cash Keeper,
Asiatic Society Bengal.

Examined and found correct,
Sd. DAVID WALDIC, } *Auditors.*
Sd. S. H. ROBINSON, }

STATEMENT, No. 3.

Shewing the Assets and Liabilities of the Asiatic Society at the close of 1866.

ASSETS.		1866.			1865.		
CASH.							
In the Bank of Bengal,	Rs.	830	2	0	817	3	0
Cash in hand, ...	...	63	3	2	103	2	7
Government Securities,	...	2,000	0	0	6,500	0	0
	Rs.	2,893	5	2	7,420	5	7
OUTSTANDING.							
Contributions, ...	...	6,322	14	11	5,793	7	11
Admission fees, ...	...	186	0	0	480	0	0
Library Sale of Books,	...	318	12	0	537	10	9
Journal Subscription,	...	1,176	10	0	568	4	0
Ditto Sale of, ...	...	131	14	3	107	10	3
	Total Rs.	3,136	3	2	7,487	0	11

LIABILITIES.		1866.			1865.		
Hon'ble Sir J. W. Colvile, Kt., for amount deposit on his account, ...	Rs.	276	8	0	276	8	0
J. W. Laidlay, Esq., for do. do.,		418	7	4	418	7	4
Salary, Establishment and Contingent Charges,... ...		200	0	0	1,000	0	0
Subscription to Oriental Translation Fund, ...		735	0	0	630	0	0
Printing Journal and Proceedings, &c., ... about		6,000	0	0	3,559	7	0
Bird Catalogue Binding, ...		42	4	0	42	4	0
Messrs. Williams and Norgate about, ...		1,000	0	0	1,010	0	0
Museum (cataloguing the specimens of the), ...		200	0	0			
Mr. Locke's Bills for engraving wood cuts, &c. for the Journal about, ...		200	0	0			
	Total Rs.	9,072	3	4	6,936	10	4

Examined, Sd. PROTAP CHUNDER GHOSHE,
Asst. Secry.

STATEMENT, No. 4.

Shewing the Assets and Liabilities of the Oriental Publication Fund at the close of 1866.

ASSETS.		1866.			1865.		
In the Bank of Bengal,	Rs.	171	4	10	519	8	6
Cash in hand, ...	...	2	4	5	5	8	5
Government Securities,	...	8,500	0	0	8,500	0	0
Bibliotheca Indica Sale and Subscription, ...	...	908	15	3	1,583	15	9
Government allowance for December, 1866, ...	...	500	0	0	500	0	0
	Rs	10,082	8	6	11,109	0	8

LIABILITIES.		1866.			1865.		
Establishment and Contingent Charges for December, 1866,		50	0	0	50	0	0
Editing Charges due for work not yet completed about,	...	200	0	0	800	0	0
Printing Charges bout (Baptist Mission Press),	...	1,100	0	0	3,400	0	0
Deposit, ...	...	146	13	0	146	13	0
	Rs.	1,496	13	0	4,396	13	0

Examined, Sd. PROTAP CHUNDER GHOSHE,
Asst. Secy.

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR SEPTEMBER, 1867.

A monthly General Meeting of the Society was held on Wednesday the 4th September, at 9 P. M.

H. B. Medlicott, Esq., in the chair.

The minutes of the last meeting were read and confirmed.

Presentations were announced—

1. From W. J. Herschel, Esq., Midnapore, through Mr. Grote, a human skull, wanting the lower jaw, with the sutures totally obliterated.

2. From Colonel J. T. Walker, a copy of survey of the western extremity of the Karatau Mountain, by Captain Meyer, translated by R. Michell, Esq., F. R. G. S.

3. From Sir A. Grant, Director of Public Instruction, Bombay, a copy of Catalogue of Native Publications in the Bombay Presidency.

The following gentlemen, duly proposed and seconded at the last meeting, were balloted for and elected as ordinary members.

The Rev. W. C. Fyfe.

Captain V. Gauvain.

A. J. Hughes, Esq, C. E.

Lieutenant J. Butler.

M. Victor Place.

The following gentleman is a candidate for ballot as ordinary member at the next meeting.

M. Eugene Petit, proposed by the Hon'bl Mr. Hobhouse, seconded by Mr. Grote.

Letters from Babu Bunkimchunder Chatterjee, Captain G. C. Depree, and Babu Haridása Dutt, intimating their desire to withdraw from the Society, were read.

The Council reported that they have elected the Hon'ble J. P. Norman a member of their body, in place of H. Beverley, Esq., resigned.

The Secretary then reported that 68 non-resident members have voted for the changing of Bye-law 100, and replies from the remaining were daily expected.

The receipt of the following communication was announced.

The Hill tribes of the Northern frontiers of Assam by the Rev. C. H. Hesselmeyre.

In giving notice of a motion, Mr. Medlicott said—

"A case having recently occurred in which,—with strict adherence, as I believe, to the Bye-laws 62, 63, 64 regarding Special General Meetings—it has been possible, within the period of 6 days (as far as resident members are concerned) to pass a measure altering a Bye-law of the Society. Although the object of this measure is not questioned by any one, the example has raised an alarm, that in a similar manner—at variance, it is conceived with the spirit of Bye-law 43 regarding the treatment of questions of importance—serious changes might be carried, against the general feeling of the members: 1st, the alleged danger lies in the absence of limitation, in rule 62, to what should be considered as 'matter relating to the business of the Society;' 2nd, I am strongly of opinion that every precaution should be taken against such an adventure; 3rd, anything might be brought under that expression. It may, however, be safely assumed that the alteration of a Bye-law can never be a matter of such urgency: more especially as, by rule 75, the Council has considerable powers to provide temporarily for emergent cases. I would therefore propose that the latter portion of rule 62 be altered to read as follows: 'for the purpose of taking into consideration special matters relating to the business of the Society, but not intending to the alteration of a bye-law.'"

At the request of the chairman, Mr. W. T. Blanford read the following account of stone implements found in Central India.

"At the October meeting of last year, I was enabled, through the

kindness of Mr. Rivett Carnac, to exhibit to the Society a very interesting collection of agate flakes and cores found by the late Lieutenant Swiney at Jubbulpoor. A selection from this collection has now been lithographed, for publication in the Society's proceedings. Since last year I have had some slight opportunities of adding to our knowledge of the distribution of these agate implements throughout the country, and I can also state a little from personal observation as to their mode of occurrence.

"I first met with them at Jubbulpoor. Major Oakes, of the Revenue Survey, and Major Ryder very kindly pointed out to me some of the localities in which Lieutenant Swiney's specimens were found. They appear to abound upon almost every rising ground. I found them here and there near Seoni, and abundantly at several places around Nagpoor. I also met with a few west of Chanda, and, lastly, with two or three small specimens on the trap outlier close to Rajamandry.

"They appear thus to occur in abundance along the edge of the trap country, which furnishes the stone of which they are composed. They are chiefly found on gentle rises, rarely scattered over alluvial plains. They are frequently to be met with a few miles outside the trap boundary. Whether they occur in equally large numbers throughout the trap area, it is difficult to say; they have certainly not been found in any quantity as yet. So far the theory which appears best to suit their mode of occurrence is, that men living outside the trap boundary travelled to its edge, in order to obtain the material for their flakes, made what they required on the spot, and threw away the useless cores and the badly shaped flakes. The spots I have indicated, rises near and upon the trap boundary, are precisely those where agates and jasper derived from the traps would first be met with. The numbers of the chipped agates, in some places, are astonishing. Lieutenant Swiney must have collected several thousand specimens near Jubbulpoor, and he only took the more perfectly shaped cores, throwing away at least 19 out of 20. The collection I exhibited last year, was only a very small portion indeed of his collection, of which Major Ryder possesses the bulk. I myself obtained several hundreds of flakes and cores from a small hill about 6 miles north of Nagpoor. The majority were not worth taking, as there were only a few faces on them from which flakes had been split, but taken in

connection with other specimens, the marks of their having been subjected to the same treatment was unmistakeable.

"I have been unable to trace the flakes in connection with the extinct fauna of the Nerbudda and Godavery waters any further than I mentioned last year. As a rule, the cores and flakes only occur on the surface, or immediately beneath it, on the surface soil. This is precisely the case with flakes and cores of similar form in Europe.

"The enormous number of cores which occur, and their widely spread distribution, point either to a very large population using them, or, which is the same thing, to a very long period of time during which they were used. The former is unlikely, the latter extremely probable. The race which used them was probably one of hunters and fishers, scattered sparsely over the country.

"At the October meeting, I mentioned that I had seen specimens of cores, similar to those of Central India, brought from Sind. Specimens from the bed of the Indus have since been figured in the Geological Magazine, and I learn from Sir Bartle Frere, to whom I sent some specimens of the Nagpoor cores, that similar chipped siliceous fragments occur *in bushels* on the surface of the limestone at Roree. The Sind cores are of chert, doubtless derived from the nummulitic limestone, and they appear even to excel, in regularity of form, the specimens from Central India. I stated in October that I had seen no figures in European works of any of the sub-conical forms of cores. After the meeting, copies of the first number of Messrs. Christy and Lartet's *Reliquiæ Aquitanicæ* reached India, and in one of the plates there are some specimens figured, precisely similar to those of India, except in being much larger.

"I have nothing to add as to the relative ages of the Madras form of implements, the so-called axes, (not axes at all as I believe) scrapers, &c., and of the agate and jasper cores and flakes. I have, however, found specimens of the quartzite axe shaped implements about half way between Nagpoor and Chanda; again at Edlahad in the Pemgunga valley, west of Chanda; and a very beautiful specimen at Maledi, W. N.-W. of Sironcha. One or two specimens of the same form, but composed of agate, were found by Mr. Fedden, in the Pemgunga valley in S. E. Berar, but their form is not sufficiently good to render their artificial origin quite certain."

"Mr. King said:—In April 1865, I found frequent specimens of chipped stone implements of the different types already met with by Mr. Foote, of the Government Survey, and myself in the neighbourhood of Madras, lying scattered over the surface of the eastern side of the Khoondair or central valley of the Kuddapah and Kurnool districts of that Presidency. They were principally found in that part of the valley which lies in the Kurnool district, and were generally of the flat oval form, that is, an oval, either long or short, having one end longer and more pointed than the other, and with—what I take to be a very distinctive mark of an artificially worked or chipped stone—a more or less regular and wavy sharp edge all round the larger periphery of the stone and in the same plane. The other form, not so commonly found, viz., a supposed axe-head, with one straight edge at the longer end, met by lateral edges from the short end, were also met with. All these were lying about irregularly, sometimes out on the open plains and on the rising grounds; or as was more frequently the case, in the beds of the little lateral valleys of the streams. In the latter cases, the implements appeared to have been washed out of the layer or layers of gravel and shingle which occasionally show in the banks of these lateral valleys.

"The principal localities about which these implements were found are the villages of Roodrar and Madaypoor, and the country between and south and north of them. In the beginning of last year, I was induced to look more particularly over the ground around these places, and was successful in finding some good specimens of implements *in situ*. These occurred in deposits which I have called the 'Implement gravels:' and which are only seen to any extent in this part of the country along the eastern side of the Khoondair valley. Here these gravels show up all the streams flowing from the Nullamullays, which mountains border this side of the Khoond depression, and they are exposed in nearly every well that has been sunk within four to six miles of the bases of the mountains. The deposit generally consists of a pale yellow and greyish coarse clay, more or less filled with coarse sandy particles, fine gravel, or shingle. The gravel and shingle occur in irregular layers which are sometimes totally separate, but generally run into one another until they form often a thick bed at the bottom of the formation. I have never seen the whole deposit over

20 feet in thickness, but there is every evidence of its being thicker in places. The implement gravels are generally in the stream sections, over-laid unconformably by a finer sandy deposit, with fine gravel, which has been found on the worn surface of the older accumulations. The same coarse lower gravels extend southwards to the Kuddapah basin presenting like fractures; and thence we find them at intervals all the way down to the Madras area, where they contain the stone implements of the Trivellore taluq and other localities examined by Mr. Foote and myself nine years ago. The gravel and shingle is all of quartzite on altered sandstone: generally well rounded and quite smooth. For the most part, the clay is calcareous, the contained debris being coated with *kunkur;* but often it is ferruginous and mottled with red spots and patches of ferruginous matter, occasionally presenting a lateritoid character.

"While working up the Madaypoor stream, I examined the vertical banks as closely as possible, and at last recognized the apparently rounded and edged end of an implement just sticking out from the shingle bed in the bank. This turned out to be a good specimen of a pointed oval: it lay in one of the layers of pebbles and rectangular fragments of quartzites which occur in a thick bed of ferruginous and lateritic sandy clay; at seven feet below the present upper surface of the bank. Nearly immediately above this layer, at about four feet from the surface, I picked out a second implement of a ruder shape: still a pointed oval, but rather thick than flat, as the ovals generally are. This was from another layer of coarse gravel which appeared to be the bottom of a newer set of gravels than that containing the first specimen: but I found afterwards that these apparently separate deposits run into each other by lenticular tailings. At the bottom of this bank and section, there is a very coarse gravel and breccia in a kunkury matrix, which partly forms a little talus or foot at the base: and from the surface of this, cemented with the rest of the shingle, I extracted another rude implement. It is broken at its longer end, and was flatter and not so pointed at this extremity as either of the others. It may possibly have fallen out of the bank above, and become cemented with the debris at the base.

"Again, some seventeen miles further south, I found two implements *in situ* in the banks of the Ullamoor stream. They were associated

with the gravels much the same as was the case with those already described: the one in the face of the bank, at 4 feet from the surface: the other on the sloping edge of a cemented gravel bank in the bed of the ruins. They are both flat ovals, but without pointed ends: though slightly longer at one extremity than the other. They were not at all easily extracted from the surrounding gravel: neither were the three from the Madaypoor stream.

"So far, except in one instance when the rather doubtful specimen consisted of *trap*, our chipped implements of the Madras Presidency have hitherto been all of quartzite, but I was rather struck with the occurrence at certain points, along the banks of these streams, of scattered fragments of light and dark-coloured *chert*, some of which looked like small 'flakes.' These fragments were likewise, in places, much crowded together, as though they had been broken off and left there, for instance by modern workers as substitutes for flints, or other uses to which chert might be put, or even that they might have been collected and broken for amusement by the shepherds and their children. There is, besides, a tribe of very uncultivated people, called Chensulahs, inhabiting the jungle skirting the Nullamullays; and they might have taken to stone for arrow-heads, &c. I could, however, learn nothing confirmatory of my suspicions; and the Chensulah people use iron arrow tips, or the simple hardened and pointed wood, while they do not remember that stone was never used by their ancestors for such purposes. Nevertheless, I did pick up a chipped fragment of chert, which looks remarkably like as if it had been manufactured: it is of a rude shield shaped oval form, short and blunt at one end, with a sharp edge all round in the same plane, and is about $2\frac{1}{2}$ inches long by 2 inches broad. The general elevation of that part of the Khoondair referred to, is from six to nine hundred feet above the sea. This is not, however, the greatest elevation at which implements have been found in the Madras Presidency: for I have picked them up in the Kuddapah Sub-division, a little south of Raichotee, at about 1,400 feet."

Mr. King then showed three specimens which he had found on the surface in another series of valleys on the eastern side of the Nullamullays. The first was a very flat oval, with an extremely acute and sharp edge all round: which he supposed to have been a "skin-scraper." In one of the other specimens, a large axe-headed form,

there is still apparent, on the largest flaked surface, the peculiar conical area of fracture called by archæologists, the "core of percussion."

The third specimen was a very rude one, and is probably not an implement. It was very coarsely weathered and fractured, and does not possess a continuous plane edge all round its larger periphery. It was interesting at the time of its being found, from its being the only approach to a stone weapon which Mr. King had seen in the hilly country of the Kurnool district.

In the absence of the author, Mr. Blanford read the following note by Mr. Wilson of the Geological Survey.

"The chipped stones I send, form a portion of a large collection I made last season. I found them scattered generally widely over the trap area, forming the southern boundary of the district of Saugor, and the northern to the Nerbudda valley,—the highest ground of the scarp being covered with trap. They always occur in the surface soil, mostly black clay, called cotton soil; but in all cases the underlying trap rocks protruded in lumpy masses here and there through the soil, in which the chipped specimens were found. The only other fragments I ever found associated with them, were those of intertrappean rocks, and once a large fragment rolled of jasper.

"On the trap forming a large flat, and the summit of the scarp, two miles east of where the new road from Nursingpoor to Saugor crosses it, several specimens were found scattered about. This flat overlooks the sandstone area to the north-east, 10 miles westwards on the same plateau on the trap. Several more were picked up 11 miles north, again near Moar village, south of Deoree. Several more again on trap along the edge of the main ranges of trap hills, close to and north of Deoree. Some three dozen specimens were found along the north side of the Sookcher nullah, north and westwards of Deoree; and in the centre of the trap area four specimens were picked up, in surface soil, on traps.

"The Duhar nullah which crosses the Saugor and Deoree road, midway between the two, is bounded on the east by a high plateau of trap, on which several specimens were found. Sandstone shows in patches in the nullah bed, some 50 feet below. In the Singrampoor valley, between Jubbulpoor and Dumoh, I found 7 or 8 specimens

on the surface of the ground. On the plateau south, on which Killoomer hill is situated, some 600 feet above the valley, six or seven were found."

Mr. Ball then read the following note :—

"I have to record a single addition to the scanty collection of stone implements which have been found in Bengal. The specimen I now exhibit was found on the surface, at an elevation of about 700 feet, near the village of Gopeenathpoor, which lies 11 miles S. S. W. of Beherinath hill in the district of Manbhoom. Though of the same material (quartzite) it is much better shaped and more symmetrical than any of the specimens which I described in the communication I made to the Society in 1865.* This superiority of workmanship makes it approximate much more closely to the character of the implements from Madras than do any of the others. The chief interest attaching to this discovery is, that the locality is the most eastern in India, in which any trace of the ancient races who manufactured these implements has been found; no sign of anything of the kind has been met with in the alluvium which stretches for over a hundred miles further to the west. In Burmah and Assam, it is true, implements have been found, but they are of a very different type, and probably of a much more recent age. I do not feel that this discovery of a single specimen justifies me in making any further remarks; and I must content myself for the present with the hope, that, in the examination of the lower portions of Manbhoom, of Singbhoom and Dhalbhoom districts, formerly known as the jungle mehals, and at present inhabited in parts by rude and almost savage races, I may be sufficiently fortunate to make some discovery, which will throw more light on this very interesting and important subject.

Dr. Anderson then exhibited some specimens of agate flakes which were found in an old Andaman encampment, and which were forwarded to the Society's Museum by Col. Haughton in Nov. 1861.†

Mr. Ormsby, the general Secretary, directed the attention of the meeting to some celts from the Indian Museum which had been presented to the Society, in February, 1861, by H. P. LeMesurier, Esq., Chief Engineer, Jubblepore Line, E. I. R.

These implements were of a much more finished description than

* Vide P. A. S. 1865, p. 27. † Vide P. A. S. 1863, p. 306.

any of the others exhibited, and were evidently much more modern. A full account of them is given in the Proceedings for February, 1861.

Mr. Ormsby then remarked that he thought one of the best proofs of the antiquity of the ruder forms of stone implements, and of the fact of their being manufactured by man, can be seen in the case of a weapon being found stuck in the scapula of a Megaceros Hibernicus, an animal now extinct.

Mr. W. T. Blanford said—

"I am much disposed to believe that we have evidence in India of the existence of man at a much earlier period than in Europe. I pointed this out last year, but the subject has not attracted the attention it deserved; and I may therefore briefly reapitulate the peculiar circumstances which render the flake found by Mr. Wynne, in situ in the Godavery gravels near Pyton, so peculiarly interesting. As I then stated, although the flake is so well shaped, that I entertain very little doubts of its being of human manufacture, still it is extremely desirable that further evidence should be obtained; and it is only right to add that, although both Mr. Fedden and I searched carefully this year, in several places upon the tributaries of the Godavery (the Wurda and Pem or Pyne Gunga), where fossil leaves are met with, no more flakes were found. But, accepting Mr. Wynne's flake as of human origin, we have evidence of the co-existence of man with the animals, the bones of which occur in the Godavery gravels, and which are identical with those found in the Nerbudda gravels. The fauna thus indicated differs much more widely from the existing Indian fauna than the pleistocene animals of Europe do from those now existing in that country. The change which has taken place in the Indian fauna since the period of the Nerbudda gravels, consists in a substitution of animals with Malay affinities for animals with European or African affinities. I cannot now enter into this subject at full length, but I will point out the most remarkable instance. The great bovine of the Nerbudda gravels, an animal, the remains of which are peculiarly abundant, was a true Taurine, so closely allied to the great *Bos primigenius* of Europe (or, as innovators in scientific nomenclature prefer to call it, *Bos Urus*,) that the differences are scarcely more than sufficient to constitute geographical races. But, as is well known, the only indigenous race of wild bovines (exclusive of the buffalo) in the Indian peninsula, the Gaur, is a flat horned

Taurine, belonging to the subgenus Gauæus or Bibos, widely different in structure from the true round horned Taurines; and both the Gaur and other species of the same subgenus are unknown north and west of India, in the countries inhabited by the modified (domestic) descendants of Bos primigenius, but abound throughout the Malay peninsula, and in several of the islands of the Malay Archipelago. A more complete case of the substitution of one animal by another with distinct affinities could scarcely be imagined; now I know of no such case of substitution having taken place in Europe since the pleistocene period; species have died out, just as the Hexaprotodont and Tetraprotodont Hippopotami of the Nerbudda have become extinct in India, but that is all; and I cannot help thinking that the distinction is important, and that it indicates a longer interval in India since the deposition of the Nerbudda gravels than has taken place in Europe, since the formation of those pleistocene beds in which the oldest remains of man, yet discovered, have been found. The fauna of India at the present day is a remarkable mixture of African and Malay forms. The idea, so commonly expressed in European books, of India belonging to the same geological province as the Malay peninsula and Southern China, is quite erroneous. The fauna of the Nerbudda gravels, however, so far as it has hitherto been worked out, appears to have been either purely Western (African and European) in its affinities, or to have been much more nearly allied to the Western fauna than is that now existing."

Mr Justice Phear remarked—

"That as there was still, no doubt, very much incredulity as to whether these supposed stone implements were properly attributable to a human origin or not, he might be permitted to mention a fact which in some sort afforded negative evidence in favour of the hypothesis. A few years ago, he had occasion to examine with some care the gravels of the valleys of denudation in Norfolk and Suffolk: a very large portion of these gravels consist solely of flint, and are the result of the erosion and the dissolving of the chalk in which the flints were originally imbedded. In most instances, no traces of beach action are apparent, though on the other hand the flints are often broken, obviously by violence. The result is, that in these counties are very large quantities of gravels, in which the flints universally exhibit abrupt outlines and sharp edges: still, among these

he never detected any forms resembling those of the stone implements. At the same time he must admit that his observation was not then quickened by expectation. If, however, his supposition, that these forms were absent in the gravels of which he had spoken accorded with the fact, it would go some extent to show that they were not probably due to fracture brought about by natural causes. He would add that too much weight ought not to be given to the objection founded on the rudeness and incompleteness of the great bulk of the specimens, because if they really were the handy work of man, most if not all of those found in the gravels, from which they are manufactured, would be failures. All that were finished, and brought to a condition fitted for use, would of course be taken away from their places, and, if discovered at all, would be found isolated or on the sites of dwellings."

Mr. Dall suggested that the instruments might have been used for religious purposes, probably as sacrificial knives.

Mr. Ball said :—

"One of the chief difficulties with most of these implements is to assign a probable use for them. If it be true that the art of manufacturing some of the more complicated forms is lost, it seems no less to be the case that the art of putting them to the use for which they were intended has not been handed down. As suggesting a probable use for some of the flakes exhibited by Mr. Blanford and Dr. Anderson, I would remind the meeting that, when the first Europeans landed in Mexico, they found that the inhabitants used to shave themselves with flakes of obsidian : two such razors, it is said, were blunted by the operation. It is a well known custom amongst the Andamanese to shave the head with pieces of broken glass, as well as to use lancets of the same material; now, bearing in mind the objection which savage races always have to adopting new customs, we cannot suppose that the introduction of this one was posterior to that of glass. And we are thus led to speculate as to what the material can have been which glass has superseded. The flakes collected by Col. Haughton and exhibited by Dr. Anderson this evening, seem to prove that a source of flint or agate must be accessible to the Andamanese, though, what its nature may be, the scanty knowledge at present possessed of the geology of the Andamans, prevents our determining. Future investigation may shew, that with the Andamanese, as old nails and scraps of iron have

taken the place of bone, hardened wood, and possibly flint as the material for arrow-tips,—so fragments of glass have superseded flint razors and lancets."

Mr. King said, with reference to the supposed uses of these implements, that he was strongly inclined to consider, that they had been to a large extent used in the hand. They are easily held in this way: injury to a fellow creature might be easily brought about by a good blow from such a hand weapon: and the hewing of wood, grubbing up of roots, and the scraping of skins were savage practices which might be easily, though slowly, done by manual labour, assisted with one of these oval, or axe-headed implements.

Dr. Anderson then exhibited four deer horns and three skulls received from Colonel Dalton, and directed the attention of the meeting to the fact of the sutures of one of the skulls being almost entirely obliterated.

Mr. Ball said—I have to regret that I was not before aware of Dr. Anderson's intention of exhibiting this skull this evening, as I possess a somewhat similar one, which I picked up at Searsole near Ranigunj in November last. It was found in a field where lay the bones of hundreds of victims to the famine, so that it is impossible to say with certainty to what race or caste its owner belonged, but the presumption is in favour of his having been either a Bhowrie or a Sonthal. This, however, is a matter of not much importance, as so abnormal a specimen could never be regarded as an ethnological type. Since it was picked up, ten months ago, I have not seen it, but as far as my recollection serves me, it had most of the principal sutures either partially or totally anchylosed. Besides which, it had a strongly marked ridge over the eyes. I shall take the first opportunity which may occur of exhibiting it to the Society."

The following communication has been received from Mr. Ball.

"The discovery of stone implements having proceeded so far in India, it has been thought desirable to tabulate the principal facts which have been published on the subject, with the twofold object of facilitating future reference, and of shewing in one view how extensively these remains are distributed, not only in India itself, but also in some of the Islands of the Indian Ocean.

"The implements are divided into the three following classes.

A, Cores and flakes of agate, flint, &c.

B, Chipped axes, &c., chiefly of quartzite.

C, Polished 'celts' of Trap, Chert, Jade, &c.

List of localities in India where ancient stone implements have been discovered.

CENTRAL PROVINCES AND CENTRAL INDIA.

Character.	*Material.*	*Locality.*	*Position.*	*Discoverer and reference.*	*Specimens where deposited.*	REMARKS.
A.						
Arrow head.	Chert.	Nyagurhee 28 miles west of Cachye, Jubbulpore district.	?	Mr. H. P. Le Mesurier, C. E., P. A. S. B. 1861, p. 81.	Private collection.	
„ „	Flint.	Jubbulpore district.	In granitic gravel and red soil.	Found by Lt. Swiney, H. R. Carnac, in P. A. S. B. 1865, p. 77.	Two specimens forwarded to the Asiatic Museum.	
Cores.	„ „	„	„			
Hammers and knives.	„ „	„	„	id.	A number of specimens sent to Sir C. Lyell.	
Hammers, flakes and cores.	Agate.	„	On surface.	Lt. Swiney, Mr. W. H. Blanford, in P. A. S. B. 1866, p. 230.	Mr. Rivett Carnac's collection.	
Cores.	„	Also at Seoni, Nagpore, Chanda, Rajmhendy.	On all rising ground	Mr W. H. Blanford, P. A. S. B., Sept., 1867.	Portion in Geological Museum, Calcutta.	These are found all along the edge of the trap country.
B.						
Axes, &c.	Quartzite.	Nagpore, Chanda, Edlabad in Pem-Gunga valley, Maledi W. of Chanda.	On surface.	Mr. W. H. Blanford, P. A. S. B., Sept., 1867.	In Geological Museum, Calcutta.	

Axe.	Agate.	Pem Gunga valley S. E. of Berar.	On surface.	Mr F. Fedden, vide Mr W.H.Blanford, (l. c.)	id.	
Axes, &c.	Vindhyan sandstone.	South part of Saugor district.	In and on the cotton soil.	Mr. W. L. Wilson, P. A. S. B., Sept., 1867.	id.	Said to occur in great profusion.
C.						
Hatchets (Battle axes?)	Trap and Basalt? one of Laterite.	Manickpore and Kirwee.	In temples round Mahadeos.	Mr. H. P. Le Mesurier, C. E., P. A. S. B. 1861, p. 81.	12 specimens in Asiatic (now Imperial) Museum.	Found in great quantities but always in temples; large quantities of limpets bearing traces of fire, have been found near the localities where the implements were first found.
Long and short axes, &c.	Greenstone, a schistose rock and one case of limestone.	Bundelkund.	,,	Mr. W. Theobald, Jr. P. A. S. B., 1862, p. 323.	?	Length varies from $1\frac{7}{8}$ inches to 10 inches. Mr. T. remarks on absence of quartzite and Vindhyan sandstone celts.
Hammer.	?	Powari E. of Son river.	?	.....	?	
Battle axes. Perforated stones, hammers?	?	Jubbulpore district.	On the Chautras round the Mahadeos.	Mr. V. J. Carey, P. A. S. B. 1866, p. 135.	Private collection.	

MADRAS.

Character.	*Material.*	*Locality.*	*Position.*	*Discoverer and reference.*	*Specimens where deposited.*	REMARKS.
B. Axe and scrapers.	Semi vitreous quartzite.	Near Madras.	In laterite gravel bed.	W. King and R. B. Foote, Dr. T. Oldham in P. A. S. B. 1864 p. 67.	Geological Museum, Calcutta.	This was the first discovery of implements *in situ* in India.
Axes, Hatchets, spears, &c. in great variety.	id.	id. Rachootee. Kurnool.	In laterite gravel or unaltered laterite conglomerates of uncertain age.	Dr. Oldham, Messrs. R. B. Foote, C. Æ. Oldham, W. King. See Dr. Oldham, P. A. S. B., 1865. p. 206. R. B. Foote, Madras Journal of Literature and Science, Oct., 1866, pp. 1—46.	id.	For particulars of localities, &c. See appendix to Mr. Foote's paper.
Axes, scrapers, &c.		.....	In situ in gravel.	W. King, P. A. S. B., Sept., 1867.	id.	

BENGAL.

B Axe and spear heads.	Quartzite.	Manbhoom in Jherria coal field.	On surface.	Mr. V Ball, P.A S.B. 1865, p. 127.	Geological Museum Calcutta.	
Axe.		Hazarcebagh.	„ „	Mr. T. W. H. Hughes.	id.	
„		Manbhoom, 11 miles S. S. W. of Beherinath.	„ „	Mr. V. Ball, P A.S.B., Sept., 1867.	id.	
C ? Fragment.	Agate.	Behar near mouth of the Son river.	In alluvium.	Mr. W. Theobald, P. A. S. B, 1862. p. 323 and 1865. p. 127.	id.	

BOMBAY.

A Knife.	Agate.	Godavery valley near Pyton.	Pliocene beds?	Mr. A. B. Wynne. Geological Mag. June, 1866, p. 283. Also see Geological Mag. Feb. 1866. p. 95, & P. A. S. B., 1865, p. 207.	Geological Museum. Calcutta.	Found in clays and gravels which also contain remains of large extinct mammalia.

SCINDE.

Character.	*Material.*	*Locality.*	*Position.*	*Discoverer and reference.*	*Specimens how disposed of.*	Remarks.
A Cores.	Flint.	Shikarpore on the Indus.	3 feet below the *rock?* in the bed of the river.	Lt. D.'O. Twemlow, R. B. E., Major-Genl. Twemlow and Mr. Evans, Geological Mag. Oct., 1866, p. 433, and Geological Mag. Jan., 1867, p. 43.	British Museum?	
		Roree.	On surface.	Sir B. Frere, Mr. W. H. Blanford, P.A.S.B., Sept., 1867.	.....	Said to occur in great abundance.

ASSAM.

C Scraper.	Argillaceous slate.	Debrogurh.	Under surface.	Mr. H. B. Medlicott.	Geological Museum, Calcutta.	
Square Celt, (axe?)	Jade?	Naga hills, lat. 27° 30′ long. 91°.	„ „	Lt. Steel, R. A., Sir J. Lubbock Bart. Athenæum, June 22nd, 1867.	Private collection of Mr. Wingroves, planter.	Said to have been brought down from the hills by the Namsany Nagas. A second specimen with Mr. Hoby, tea planter.

BURMAH.						
C Scraper & axes,	Chert and hard slate.	Scarce in British Burmah and not below Promo in Pegu. More abundant in upper valley of Irawadi.	?	Mr. W. Theobald, Junr., P. A. S. B., 1865, p. 126.	Geological Museum, Calcutta.	Burmese call these *Magio* or Thunderbolts, and prize them as medicine. They sometimes cost as much as 50 rupees.
ANDAMANS.						
A Chips (arrow tips). Cores.	Chert.	Near Port Blair.	In an old encampment.	Major Haughton, Mr. W. Theobald, Junr., P. A. S. B., 1862, p. 326. See also P. A. S. B., 1863, p. 306.	Private collection & Imperial Museum.	Found in no great abundance in a native encampment.
Round stone (hammer?)	.....	.....	.....	.....	.....	
JAVA.						
B & C Spear heads, axes and hatchets both smooth and rough.	?	Province of Bagelen.	?	Mr. Kunder Von Camarecq. Lt.-Col. H. Yule, B. E., J. A. S. B., 1862, p. 30.	In discoverer's private collection.	Found in all parts of the Island.

LIBRARY.

The following additions were made to the Library, since the Meeting held in August, 1867.

The names of Donors are in capitals.

Presentations.

Mittheilungen der Kaiserlich-Koniglichen Geographischen Gesellschaft VIII. Jahrgang 1864 Heft II.—THE K. K. GEOGRAPHISCHE GESELLSCHAFT.

Jahrbuch der Kaiserlich-Königlichen Geologischen Reichsanstalt. Jahrgang 1866 XVI. Band, Nos. 2 and 3.—THE K. K. GEOLOGISCHE REICHSANSTALT.

Indische Studien. Vol. X. No. I.—PROFESSOR A. WEBER.

Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften *Math.-Nat. Classe* Band, LIV. Hefte I to IV.—THE K. AKADEMIE DER WISSENSCHAFTEN IN WIEN.

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Professional Papers on Indian Engineering, Vol. IV. No. 16—THE EDITOR.

Memoirs of the Geological Survey of India, Vol. VI. pt. I.—THE GOVERNMENT OF BENGAL.

A catalogue of Native Publications in the Bombay Presidency up to December, 1864, by Sir A. Grant.—THE AUTHOR.

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Bulletin de l'Académie Impériale des Sciences de St. Pétersbourg. Tome X. Feuilles 1 to 36, Tome XI. Feuilles 1 to 19.—THE ACADE'MIE IMPE'RIALE DES SCIENCES OF ST. PETERSBOURG.

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Zeitschrift der Deutschen Morgenlandischen Gesselschaft. Edited by Professor L. Krehl. 22nd Band, Hefte 1, II.—THE EDITOR.

Purchases.

Revue des Deux Mondes, 15 Juin, 1st July 1867.
The Annals and Magazine of Natural History, Vol. II. No. 115.
The Westminster Review, July, 1867.
The Quarterly Journal of Science, July, 1867.
Revue et Magasin de Zoologie, No. 5, 1867.
The Journal of Sacred Literature, July, 1867.
Comptes Rendus, Nos. 22, 23, 24 and 25, 1867.
Tables des Comptes Rendus, Tome LXIII.
Lane's Arabic and English Dictionary, B. I. pt. 3.
Introduction du Buddhisme dans le Kashmir, by M. L. Feer.
Revue Archéologique, January to December, 1865.
Böhtlingk and Roth's Sanskrit-Wörterbuch, 34 Lief.
Journal des Savants, Juin, 1867.
Hewitson's Exotic Butterflies, part 63.
Arago's Popular Astronomy, Vol. II.
The Wild Tribes of Malaya by the Rev. Favre.
Buckle's History of Civilization in England, 3 Vols.
Justi's Handbuch der Zendsprache.
The Indian Medical Gazette, Vol. II. No. 9.

Exchange.

The Athenæum, for June 1867.

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR NOVEMBER, 1867.

A General Meeting of the Society was held on Wednesday, the 6th instant, at 9 P. M.

Dr. S. B. Partridge, Vice-President, in the chair.

The minutes of the last meeting were read and confirmed.

Presentations were announced:—

1. From Colonel C. S. Guthrie; 79 Sheets of the Ordnance Survey maps of England.

2. From Captain R. A. Cole; a copy of his Elementary Grammar of the Coorg language.

3. From Colonel J. T. Walker; copies of the administration report of the Great Trigonometrical Survey of India, and of the Topographical Survey in the Bengal Presidency, for 1864-65 and 1865-66.

4. From Babu Kedárnáth Banerjee, the publisher; a copy of *Chanda-kaushika Nátaka*, with commentaries.

5. From Pundit Satyabrata Swámi; the first No. of *Pratna-kamra-nandini*.

6. From F. Cockburn, Esq.; a specimen of *Sciurus palmarum*.

7. From J. Avdall, Esq.; a fossil elephant tooth from Caunti.

8. From John S. Harris, Esq.; a copy of a Japanese and English Dictionary.

9. From Babu Jadunáth Datta, a young Crocodile.

At the invitation of Dr. Partridge, Captain Anderson introduced two Andamanese lads to the meeting. He also laid before the meeting the following correspondence detailing the objects for which the boys had been brought to Calcutta. He had found them apt at learning the names

of things, and acquiring a parrot-like imitation of sounds. They had no objection to wearing clothes, but on the contrary showed an especial desire to wear them.

From Lieut-Colonel B. FORD, *Superintendent, Port Blair.*
To Captain T. C. ANDERSON, *Barrack Master, Fort William.*
Dated Port Blair, 3rd August, 1867.

SIR,—In accordance with your expressed desire and offer, on the occasion of your visiting this settlement some months ago, to undertake the education of any Andamanese lad, who could be induced to go to Calcutta for that purpose, I have the honor to acquaint you that I referred the matter to Mr. J. N. Homfray, in charge of the Andamanese house at Port Mouat, in terms of my letter No. 248 dated 31st of May last, copy attached.

2. From his reply No. 5 A, dated 19th June last, copy attached, there appears to be no objection or difficulty in carrying out your object, so far as the children and their friends are concerned, and as it is a scheme which, if successful, is likely to be fraught with many advantages and benefit to the Andamanese themselves, and to the Government, in effecting an amicable understanding with the aborigines, as well as regards other interests between them and future residents and settlers on those islands, I beg to recommend that you now apply to the Supreme Indian Government for permission to carry out your scheme, and if sanctioned, I shall be glad to afford you all the assistance at my command in carrying it out.

I have the honor &c.,
(Signed) B. FORD, *Lieut.-Colonel.*

From J. N. HOMFRAY, *Esq. Asstt. to the Superintendent, in charge of the Port Mouat, Andaman Ids.*
To Lieut.-Colonel B. FORD, *Superintendent Port Blair.*
Dated Port Mouat, 19th June, 1867.

SIR,—I have the honor to acknowledge the receipt of your letter No. 248 of the 31st May last on the subject of an offer of Captain T. C. Anderson to undertake the education of an Andamanese lad, who would afterwards prove of great use to the world, particularly to those dwelling in these Islands.

I acknowledge the offer to be a most liberal and charitable one, with great advantages to be gained by all who take an interest in the

welfare of mankind; especially of those unfortunates, who have not yet the light of civilization thrown open to them.

I have enquired of the Andamanese on the subject, to which they have no objection, and I would suggest that the best way to carry it out to satisfaction would be as follows:—

I believe about the end of this year there is to be an Ethnological congress in Calcutta, in which case, I dare say, I might be required to show the races of these Islands, and on which occasion I could take such lads as are desirable and willing to remain behind in Calcutta for education. I would return with their parents or guardians, who would then be sure of the youngsters being taken care of and treated kindly. I would advise two or three being educated, as jointly they are likely to do more good than a single boy, whom their friends would doubt, and not take notice of on his return. It is necessary for them to keep up their own language in Calcutta, and also, on their return here, to keep up the English they would learn in Calcutta. They would also recall to each other past occurrences, which they would relate as instances to their friends, and which no doubt would be very interesting and useful to them. Should one die, the others could explain the cause to the tribe, on their return, and I am sure their parting from their friends would not be felt severely. By the same opportunity I would pay for the expense of one lad in living and education, and would further suggest that their separation from the tribe should not be for more than two years, after which period, on visiting them, should they express a wish to return to their homes, they ought to be allowed it, and again, if found necessary, and they be willing to return to Calcutta for education, it may be continued. This would show them our good intentions, and would increase their confidence in us. The lads should be treated kindly and with mildness, and not frequently flogged for not knowing their lessons and other trifles; firmness is necessary, which can be effected by withholding any indulgences from them. The mere knowing of the English language, with our habits, customs and manners, is a great boon without being great scholars. This should be the first two years' tuition: food and clothing will be the heavy expense.

I have &c.,

(Signed) J. N. Homfray.

From Lieut.-Colonel B. FORD, *Superintendent.*
To J. N. HOMFRAY, *Esq.*,

Dated Port Blair, 31st May, 1867.

SIR,—On the occasion of the visit to this settlement, some months ago, of Captain T. C. Anderson, Barrack Master, Fort William, Calcutta, that officer made, I believe, an offer to you of undertaking the education of any Andamanese lad, who could be induced to go to Calcutta for that purpose; the object in view being eventually to send amongst the aborigines of those islands, a man of their own tribe, who might not only be an interpreter between them and us, but with whose aid perhaps greater ends might be accomplished.

2. I have the honor now to inform you, that I have by the last mail received a renewal from Captain Anderson of his former offer. This offer is a most liberal one, and I am of opinion that no pains should be spared to take advantage of it; and I should be much obliged to you therefore, if you will endeavour to induce any of the elders of the tribe, with whom we are most friendly, to nominate a lad, say from 7 to 10 years of age, whose friends they might be able to persuade for a time to part with him, in order to go to Calcutta for the purpose of education. Our Andamanese friends must have such a pleasurable recollection of Calcutta hospitality and kindness, (in which respect they owe much to yourself), that I entertain a hope that there would not be much difficulty in inducing the Andamanese to send a lad away for a time for the above purpose.

3. I would suggest, should there be any reluctance to send a single individual, that I would undertake to induce Captain Anderson to receive two lads, who would thus not only be happy in their companionship, but who, from living together, would be less likely to forget their mother tongue.

4. I should feel obliged by your giving me an early reply in this matter, as I am desirous of replying to Captain Anderson's offer, as requested, by the next mail.

I have, &c.
(Signed) B. FORD, *Lieut.-Col.*

From A. H. HARINGTON, *Esq., Offg. Under-Secy. to the Govt. of India.*
To Captain T. C. ANDERSON, *Barrack Master, Fort William.*
Dated Simla, the 9th September, 1867.

SIR,—I am directed to acknowledge the receipt of your letter of the 21st ultimo, and to state in reply that the Governor-General in Council has much pleasure in acceding to your wish to undertake the charge of not more than two Andamanese lads, for the philanthropic purposes indicated in your letter, provided they are not removed from India, and that they are produced whenever required, either for inspection, or if Government should think it fit, for restoration to their friends.

I have, &c.
(Signed) A. H. HARINGTON,

From Lieut.-Col. B. FORD, *Superintendent, Port Blair.*
To Captain T. C. ANDERSON, B. S. C.
Dated Port Blair, 21*st October*, 1867.

SIR,—I have the honor to inform you that, agreeably to your request, and by the permission of the Government of India, two Andamanese lads are forwarded by this opportunity, to be made over to you, in accordance with your philanthropic intentions as regards the undertaking of their education and improvement, with the view to their ultimately being a benefit to their fellow islanders on the Andamans.

Dr. J. B. Gaffney, in medical charge of the troops on Board the "Arracan," has been so good as to take charge of the lads, to make them over to you. As the steamer "Arracan" returns immediately to Calcutta, and as Mr. Homfray has had, consequently, but 24 hours' notice of her departure, he has not been able by this opportunity to send you the vocabulary you wish for, but trusts to do so at an early date.

The two lads have been selected by Mr. Homfray and myself; the objects we had in the selection were, to send such as were willing to go, whose relations had no objection to their being sent, who had themselves evinced intelligence, and were not too old for placing under tuition. Their names are.

Andaman names, { 1 Katoo.
2 Katoo Moogtie.

"Scedi Boy"—The former name given by Mr. Homfray.

For facility of recognition these lads have been given the simple names of

1 Joe
2 Tom } Andaman.

Mr. Homfray has rationed and made every provision for the lads on board the 'Arracan.'

The original enclosure of your letter of 12th ultimo is herewith returned.

I have, &c.
(Signed) B. Ford, *Lieut.-Col.*

At the request of the chairman the boys sang a native song and performed a native dance.

The special thanks of the meeting were voted to Captain Anderson for the introduction of his interesting charges.

M. E. Petit, duly proposed and seconded at the last meeting, was balloted for and elected an ordinary member of the Society.

The following gentlemen were nominated candidates for ballot as ordinary members at the next meeting.

W. H. Stevens, Esq. C. E., proposed by Mr. V. Ball, seconded by Mr. Ormsby (for re-election).

G. King, Esq. M. D. 1st Central India Horse, proposed by Dr. Ewart, seconded by Mr. Ormsby.

J. S. Harris, Esq. proposed by Dr. Colles, seconded by Mr. Scott.

F. J. Chambers, Esq., India Carrying Co., proposed by Mr. W. King, seconded by Mr. Ormsby.

Lieutenant J. Johnstone, Superintendent of Elephant Khuddas, Central Provinces, proposed by Mr. Medlicott, seconded by Mr. H. F. Blanford.

J. W. Chisholm, Esq. Commissioner of Belaspore, Central Provinces, proposed by Mr. Medlicott, seconded by Mr. H. F. Blanford.

E. Gay, Esq. Finance Department, proposed by Dr. J. Anderson, seconded by Mr. Locke.

Letters from the following gentlemen, intimating their desire to withdraw from the Society were recorded:—

The Hon'ble E. Drummond.

Babu Súratnáth Mullick.

E. S. Robertson, Esq.

Mr. H. B. Medlicott moved the following, notice of which was duly given at the last meeting.

" That the latter portion of Rule 62 be altered to read as follows;—'for the purpose of taking into consideration special matters relating to the business of the Society, but not extending to the alteration of a Bye Law.' "

Some discussion arose on this motion as to the course that should be adopted in accordance with the Rules of the Society; at the conclusion of which, the Chairman notified that in accordance with Rule 43, the motion must be referred to the Council for Report.

The Council reported that they have re-elected Mr. H. F. Blanford, a member of their body and as General Secretary to the Society, in place of Mr. M. H. Ormsby who has resigned, and they recommended that a vote of thanks be given to Mr. M. H. Ormsby for his valuable services as Secretary.

The vote of thanks was unanimously carried.

Read a letter from the Secretary to the Government of India, forwarding, for the information of the Society, copies of the following circular letter to the local Governments, on photographing architectural remains and other works of art in India.

Simla, the 29th August, 1867.

Sir,—The desirability of conserving ancient architectural structures or their remains, and other works of art in India, and of organizing a system for photographing them, has attracted the attention of the Governor-General in Council, and, as the first step towards attaining these objects, I am directed to request that a list may be submitted, for the information of the Government of India, of all such remains or works of art as may exist in each district, together with a report of the measures that have from time to time been adopted to preserve them.

2. As regards photographing them, the Governor-General in Council is of opinion that the employment of professional skill will be unnecessary, and that the services of amateurs may with advantage be enlisted.

3. In this view, I am directed to request that arrangements may be made for the photographing by competent amateurs of all such

objects of architectural and artistic interest in their neighbourhood, as may be included in the list called for in the opening paragraph of this letter, and for their submission to the Secretary of State.

4. I am to add that some assistance may be given, where desired, either in the shape of travelling expenses, or by the purchase of a certain number of copies of really good photographs.

I have the honor to be,

SIR,

Your most obedient Servant,

(Signed) E. C. BAYLEY,

Secretary to the Govt. of India.

No. 4040.

Copy forwarded to the Foreign Department for communication and issue of the necessary orders to the Political Officers under its control.

Secretary to the Govt. of India.

The following letter from H. P. Lemesurier, Esq., was read.

Allahabad, Oct. 24th, 1867.

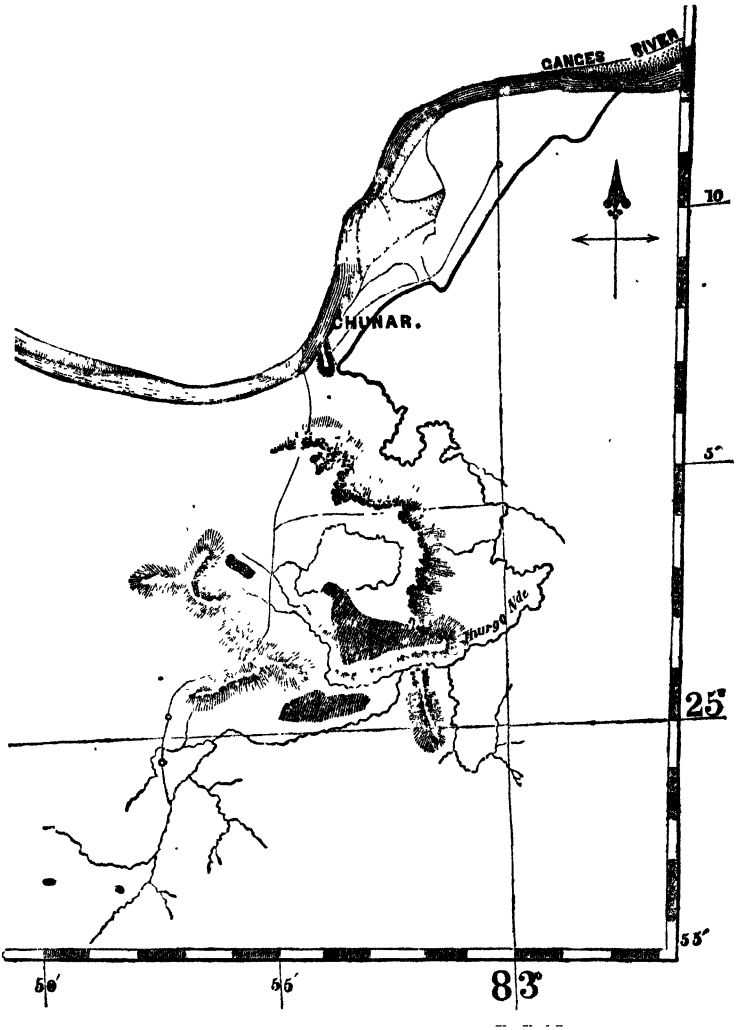
MY DEAR GROTE,

I have just hit upon a large area of ground covered with Cairns or stone barrows, each of which has contained a perfect kist: very many have been ransacked in times past by the natives. I opened one that seemed undisturbed. Its section was longitudinally thus:—



Three of the four walls were of dry rubble-stone; the fourth, the western one, was a stone on edge. Covering slabs about four feet, and from 18 inches to 27 inches wide. Length 6′ 6″ breadth 2′ 0″. Depth 18 inches or rather more; not any vestige even of a tooth or jaw bone, but mould of fine quality. Two chips of sandstone might have been in use. There must be a hundred tumuli in all. Have these been noticed before? I send sketch of the position.

(Signed) H. P. LEMESURIER.



Area covered by tumuli shaded thus—

The Chairman drew attention to the discrepancy of the observations recorded at the Government Observatory during the late Cyclone, and those taken by Mr. Lafont and other observers: also to the destruction

of the Anemometer, so that the pressure of the wind was registered for a small part only of the storm. He moved that Government be solicited to make enquiry into the cause of these failures. The proposition was seconded by Mr. Medlicott and carried unanimously. The possibility of warning the town in cyclones was also a subject of discussion.

The receipt of the following communications was announced.

From Lieut.-Col. C. L. Showers. On the Meenas, a wild tribe of "Central India."

2. From W. Theobald, Esq. Jr. A descriptive Catalogue of the reptiles of British Burma.

3. From R. Michell, Esq., F. R. G. S. A Translation of "Survey of the western extremity of the Karakau Mountains by Captain Meyer," and of "A General Survey of the country lying to the westward of the Trans Ili Region between the rivers Chin and the Jaxartes or Syr Daria, by Col. Poltorotski."

Dr. Waldie made the following observations with reference to the communication he had made to the Society at the meeting of 3rd April last, on the subject of the Hooghly water:—

Observations had been continued during the succeeding hot and rainy seasons, in order to settle one or two points then left doubtful. As respects the river water of the hot season, the new observations had confirmed the former ones in regard to the amount of organic matter: much less common salt, however, had been found in the water than in the previous year. Possibly this might have arisen from the proper time of full tide not having been caught, although this seemed not a very probable explanation. With respect to the water of the rainy season, he had formerly brought particularly to notice its putridity: this year, however, it was not found to be so characterised or at least only to a very slight degree: had the odour been the only point of difference observed, it might have been supposed to be due to some mistake in observation, but several other points of difference were found to exist, and all of them corroborative of the indications of the first. Indeed, judging from the amount of vegetation formed in the water by long standing, the water of 1865 contained more organic matter than that of 1866, and this again than that of 1867. He was disposed to attribute these differences to some general cause, possibly connected with the amount of rainfall, but could form no decided opinion.

The particulars of these observations would be found in a post-script, dated 16th September, to the paper, Part III, just published in the Society's Journal.

Library.

The following additions were made to the Library since the last meeting in September.

*** The names of Donors in capitals.

Presentations.

The Journal of the Royal Geographical Society, Vol. 36.—The Royal Geographical Society of London

Mélanges Asiatiques tirés du Bulletin de l'Académie Impériale des Sciences de St. Petersbourg, Tome V. Chronologisches Verzeichniss der seit dem Jahre 1801 bis 1866 in Kasan gedruckten arabischen, türkischen, tartarischen und persischen Werke, als Katalog der in dem asiatischen Museum befindlichen Schriften der Art, von B. Dorn.—The Author.

Selections from the Records of the Government of India, Foreign Department, No. LIII.—The Government of India, and the Govt. of Bengal.

Two copies of Professor Wilson's Glossary of Indian Terms.—The Government of India.

Dattaka Çiromani.—Baboo Prosonnocoomar Tagore.

Chandakaushika nátaka.—Baboo Kedarnath Banerjee.

Annual Report and Transactions of the Adelaide Philosophical Society for 1865 and 1866 :—The Society.

Annales Musei Botanici Lugduno-Batavi, edidit F. A. G. Miquel. Tome III. Fasc I—V.—The Leyden University.

Rahasyasandarbha, No. 42.—Babu Rajendralala Mitra.

Bulletin de la Société de Géographie, for July and August, 1867.—The Geographical Society of Paris.

Mémoires de l'Académie Impériale des Sciences, Belles-Lettres et Arts de Lyon : new series ; Vols. XII, XIV and XV.—The Imperial Academy of Sciences, Belles-Lettres and Arts of Lyons.

Annales des Sciences Physiques et Naturelles, d'Agriculture et d'Industrie : 3rd series, Vols. IX and X.—The Imperial Society of Agriculture &c. of Lyons.

Indische Studien, Vol. X. No. 2.—The Author.

Proceedings of the Natural History Society of Dublin. Vol. IV. pt. III.—The Natural History Society of Dublin.

Memoirs of the Geological Survey of India, Vol. VI, pt. 2.—The Government of Bengal.

Selections from the Records of Government, North-Western Provinces, Part XLV.—The Government of the North-Western Provinces.

Notes on the Propagation and Cultivation of the Medicinal Cinchonas or Peruvian Bark trees, by W. G. McIveor.—The Government of Bengal.

An Elementary Grammar of the Coorg Language, by Captain R. A. Cole, Superintendent of Coorg.—The Author.

The Anthropological Review, Nos. 18 and 19.—The Anthropological Society of London.

The Journal of the Chemical Society, for July, August and September, 1867.—The Chemical Society of London.

Proceedings of the American Philosophical Society, Vol. X. No. 76. —The American Philosophical Society.

Memorie della Reale Accademia della Scienze di Torino, Vol. XXII.—The R. Academy of Sciences of Turin.

Atti della R. Accademia Della Scienze di Torino, Vols. 1 and 2. —The R. Academy of Sciences of Turin.

Purchased.

The Song of Songs, a pastoral drama, not by King Solomon, with notes by Satyam Jayate.

Adam's Wanderings of a Naturalist in India.

Forbes's Hindustani and English Dictionary, Part I.

Revue Archéologique: new series Vols. XIII and XIV, and Nos. 1, 2, 3, 4, 6, 7 and 8, 1867.

Encyclopédie Méthodique; Histoire Naturelle des Vers. Vols. 1, 2, 3 and 4.

Tableau Encyclopédique et Méthodique des Trois Règnes de la Nature. Vers, Coquilles, Mollusques et Polypiers, Vols. 1, 2 and 3.

The Ibis, July 1867.

The Annals and Magazine of Natural History, Vol. 26, No. 116.

The Edinburgh Review, July, 1867.

Revue de Deux Mondes, 15th July, 15 August, and 1 September, 1867.

Revue de Zoologie, No. VIII. 1867.

Comptes Rendus, Nos. 1, and 3, 5, 6, 7, 8 and 9, Vol. LXV.

Bopp's Glossarium Comparativum Linguae Sanscritae, last part.

The Calcutta Review, August 1867.

The Indian Medical Gazette, October and November 1867.

Journal des Savants, Aout 1867.

Indische Studien, Vol. X. No. 2.

A Catalogue of Shells, British and Foreign, with a supplement by W. Wood.

Bentham and Hooker's Genera plantarum, Vol. I. Part III.

Tomlin's Comparative vocabulary of forty-eight languages.

The Annals and Magazine of Natural History, September, 1867.

Reeve's Conchologia Iconica, Parts 264 and 265.

Exchange.

The Athenæum for August, 1867.

PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL,

FOR DECEMBER, 1867.

A monthly general meeting of the Society was held on Wednesday the 4th December 1867 at 9 P. M.

Dr. J. Fayrer, President in the chair.

The minutes of the last meeting were read and confirmed.

A photograph by Messrs. Thepland and Bourne, of the two Andaman lads introduced at the last meeting was exhibited by Captain Anderson; and it was announced that members desiring to obtain copies might procure them at the photographers'.

The following gentlemen duly proposed and seconded at the last meeting were balloted for and elected as ordinary members.

W. H. Stevens, Esq. C. E.
G. King, Esq. M. D.
J. S. Harris, Esq.
F. J. Chambers, Esq.
Lieut. J. Johnstone,
J. W. Chisholm, Esq.
E. Gay, Esq.

The following were nominated as candidates for ballot at the January meeting.

Baboo Rakal Doss Haldar, Deputy Collector, Maunbhoom, proposed by Col. E. T. Dalton seconded by Dr. J. Anderson.

J. Boxwell, Esq. C. S. Officiating Deputy Commissioner, Western Doars, proposed by Lieut. J. Williamson seconded by Dr. J. Anderson.

The Rev. J. C. Browne, has intimated his desire to withdraw from the Society.

The Council reported that they have elected Coll. J. E. Gastrell and Dr. J. P. Colles, members of their body, in places of H. B. Medlicott, Esq. and Dr. J. Anderson who have resigned.

They announced also that they had nominated Col. J. E. Gastrell as Hon. Treasurer, and Dr. J. P. Colles as Natural History Secretary of the Society.

The council recommended that a special vote of thanks to be given to Dr. J. Anderson and H. B. Medlicott, Esq. for their valuable services as officers of the Society.

The proposition was agreed to unanimously.

A letter from Professor Bapu Deva Sastri with reference to a letter received some months since from Major Ellis was read. The following are the original letter and the reply.

Southbrook Cottage; Starcross; near Exeter.
20th November, 1866.

Deer Sir,—I beg to enclose a copy of an astronomical calculation, identifying a partial eclipse of the sun, recorded on a grant of land by Janamajaya, published p. 447, Vol. 6, Bengal Asiatic Researches, with one, given by Fergusson, which occurred on 3rd April, A. D. 889, for which I am indebted to the kindness and scientific knowledge of Captain Peacock, formerly of the Royal Navy; and shall esteem it a particular favour, if you will, in the first instance, kindly be at the trouble of ascertaining, whether the pandits of India have any knowledge of the eclipse, which happened on the 3rd April, A. D. 889, about Sambat 946 Vikramaditya; and afterwards proceed with the enquiry of testing by their knowledge the validity or otherwise of the identity of the two Eclipses, supposed to be established by Captain Peacock's postulate.

* * * * * * * *

R. R. M. ELLIS.

In explanation of the very great interest which I take in these enquiries, I should mention, that when I was agent in Bundelkhund, I held the office of Vice-President Delhi Archæological Society, and for several years when in constant communication with Sir Henry Elliot and Mr. Thomason about them.

Postulate regarding a partial eclipse of the sun on Sunday in the Krishna Paksha, or dark half of the moon in the month of Chaitra, when the sun was entering the northern hemisphere, the moon being in the Nakshatra Aswini; recorded on a grant of land on copper by Janamajaya, the son of Parikshita: published p. 44, Vol. 6, Bengal Asiatic Researches, 1809.

The words of the text are "Chaitramasa Krishna" or the dark half of the month, and as Chaitra answers to the month between 15th March and 15th April, the dark half would seem to imply the time of new moon for that month, at which time *only* could an eclipse of the *sun* happen; and this would be in March or early in April the dark half of the moon being then turned towards the earth, and within the limits of the 17th in the Lunar Nodes: as a solar eclipse only can happen when the moon's latitude, as observed geometrically, is less than the sum of the hemidiameters of the sun and moon combined; because the course of the moon in its path being oblique to that of the sun, makes an angle of 5° 35′.

Now in examining into the date of the eclipse named in the text, and working out the dominical letter and Epact according to the tables in the prayer-book as well as those given by Fergusson, it would seem to have been that named in Fergusson's astronomy at page 217, in Strack's Catalogue of Eclipses as having been observed at Constantinople on the 3rd April, A. D. 889; the record of the *Hindu* plates states that the moon was in the Nakshatra Aswini, which answers to the zodiacal sign *Aries*, and which would also coincide with the month "Chaitra," or between the 15th March, and 15th April, as the sign Aswini or the horse's head comprised a portion or period of the Zodiac—a little over 13 days—the dark shadow of the moon, and ergo, the sun would therefore be in Aswini on the 3rd April, the sun having entered the Northern Hemisphere, or the first star of *Aswini* on the 22nd March, coincident or nearly so with the sign of *Aries*, and quitted Aswini on the 4th April, to enter Bharani.

I have calculated all the other eclipses of the sun, happening between the 22nd and 31st March from the year 1261 down to 1699, twelve in number, or during the period of Aswini path, but not one of these happened on a Sunday, and no solar eclipse

took place in Aswini at any period except the 3rd April answering to Sunday.

There was a solar eclipse observed at Rome on the 1st April, A. D. 238, and one on the second April, 1307, observed at Ferara, but neither of these fell on a *Sunday*, therefore I am of opinion that the one named in the text must have occurred on the 3rd April, A. D. 889.

(Signed) George Peacock, F. R. G. S.
Formerly *Master, Royal Navy*, 1835.

To Bábú Rajendralala Mitra, *Hon. M. R. A. S. Phil. Secretary Asiatic Society, Bengal.*

Sir,—I have the pleasure to acknowledge the receipt of your letter No. 765 dated the 28th ultimo, together with extracts from Major Ellis' letter. He states in it, that the Solar eclipse, observed at Constantinople in the month of April, 889 A. D, happened on a Sunday in the *Krishna Paksha*, the month Chaitra, when the moon was in *Asvini*. But I have carefully ascertained that this eclipse occurred on Friday and not on Sunday. I have determined this also, that the eclipse answers to the 3rd April according to the old style, but by the new style it fell on the 8th April. Major Ellis mentions also that no Solar eclipse took place in *Asvini* at any period except the 3rd April answering to Sunday. But this is not the case, as a great Hindu Astronomer named *Ganesa*, the author of *Grahálaghava* says:

शाके ह्यब्धीन्दुतुल्ये दशगरदि मधौ मासि रामेन्दुनाडी-
तुल्ये दर्शेऽश्विधिष्ण्ये दिनकरदिवसे भानुसर्वग्रहोभूत्।
तस्मिन् ग्रहेऽश्विभं चासमितमपि बुधः काव्यसप्तर्षिमुख्या-
स्तारा दृष्टा दिवान्धाकुलितमिह जगत् तत्र हा हा चकार॥

"In the year 1443 of the *Salivahana* era the *Sanwatsara* called *Vorsha* and the month of *Chaitra*, a total eclipse of the sun took place on Sunday at the time of new moon, 13 *ghatis* (from sunrise) in the *nakshatra asvini*. At the time of obscuration the star *ásvini* (*a* Arietis) even though it was too near to the sun, the planets Mercury and Venus, and the seven stars of Ursa Major &c., were visible, the owls were flying all about and all people were confused."

I have also calculated this eclipse, and found that *Ganesa* is quite right.

The time of this eclipse answers to the 6th April (O. S.) or the 17th April (N. S.) 1521 A. D.

Therefore it cannot be supposed that the solar eclipse recorded on the grant of land occurred on the 3rd April, 889 A. D. because it fell on Friday and not on Sunday.

Yours faithfully,
BAPU DEVA SASTRI.

Benares, 21st Oct. 1867.

Read a letter from Dr. J. L. Stewart of Lahore on the carnivorous habits of the Himalayan bear.

Lahore, Nov. 25th, 1867.

My dear Sir,—It would appear that the problem has not hitherto been definitely solved, as to whether the Himalayan bears are ever carnivorous, except under stress of want of vegetable food. The following may accordingly be interesting to some members of the Society.

On 7th ultimo, Lieut. Chalmers and Mr. Sparling of the Forest Dept reached Portee in Punji on the upper Chenab, lying at about 7500 feet above the sea, in order to inspect and extend certain Deodar plantations.

It was reported to them that on that morning a large brown Bear had fought with and killed a smaller one and eaten part of the body, at a spring close to the plantation and in sight of some of the labourers. The body of the smaller bear was found concealed under leaves and grass, a part near the belly having evidently been gnawed and torn off by the jaws of some powerful animal.

On the 10th it was reported that at the same place and within sight of several labourers, the same larger bear had fought with and killed another. The body of the latter, a female, was found by the two officers concealed under leaves, a considerable portion of the back having been consumed.

It would perhaps have been more satisfactory if, in both cases, the bodies had been left for a time, to discover if the cannibal would come back to complete his meal.

Near the spot there is abundance of walnuts and wild fruits of

which the bear is fond, as well as of standing buck-wheat, which is perhaps preferred to other kinds of vegetable food.

Yours very truly,

L. L. STEWART.

With reference to the above, Dr. Buckle mentioned having once possessed a Cashmere bear which though tamed and well fed, killed and ate a goat. He shewed an especial taste for old bones: and at last his carnivorous propensities rendered it necessary to destroy him.

The receipt of the following communication was annonnced.

From Colonel A. Fytche "A Memorandum on the Panthays of Yunan."

At the request of the President, Colonel A. Fytche then read the Memorandum as follows:—

"Considerable difficulties exist in procuring correct intelligence of the Panthays, or Mahomedan population of Yunan. In the first place, they were not inclined themselves to be communicative; but rather assume a studied ignorance of their own affairs:—Secondly, communication can only be ordinarily held with them, through Chinese merchants and brokers, residents of Burma Proper, who speak the Burmese language; and who, in addition to their own private and self-interested motives for preventing free intercourse with traders from Yunan, are moreover in the pay, or subject to the influence of the King of Burma. They well understand the royal policy of exclusiveness, and have been made acquainted with the several indirect orders which from time to time, have been issued by the Government, in order to restrict as effectually as possible, every means of intercourse between Panthays and foreigners of all nations. The little information, therefore, which it has been possible to collect from the above sources furnished me by Captain Sladen, and also from a few Panthays who visited Moulmain with a Shan caravan, when I was Commissioner of the Tenasserim and Martaban Provinces in 1861, is vague and meagre; but such as it is, I will now briefly record it.

"A paper has been published in the Russian Military Journal for August 1866, on the late rising of the Dungens, or Mussalman population in Western China. I am of opinion that there is no political affinity between the Dungens of the North Western, and the Panthays of the South Western Provinces of China; or rather, that the present

rising of the Dungens on the North, bears no relation to the former rebellion of the Panthays on the south, or to any subsequent movement of the Southern Mussalman population of Yunan, to throw off the Chinese yoke ; such movement having commenced as early as the year 1855.

"This opinion must be understood, however, to have reference only to the present attitude and circumstances of the Panthays in Yunan ; without any speculative allusion to causes, or the possibility of future combination, for the Panthays of Yunane and the Dungens, are, after all, of the same race and religion, and are merely divided from each other, by the Province of Sechuen ; and a general struggle for independence, if it really arises, and is able to make head against the Chinese Government, will certainly include at no great distance of time, the whole of the Mahomedan population in China wherever found. The first sign of a combination between Panthays and Dungens, will be manifested by the fall of Sechuen, and the news of such an event would soon reach this Province.

"The term Dungen or Turgen is not known or comprehended by either Panthays or Burmese. The Mahomedans of the North Western Provinces of China are known to the Panthays, by the same denomination as they call themselves, "Mooslim," and to the Burmese as "Thaiet." The word Panthay, or as it is sometimes pronounced Panzee, is of Burmese origin, and is a mere corruption of the Burmese word "Puthee," which signifies, or distinguishes Mahomedans from persons of other religions in Burma. The Chinese call the Panthays "Quayz" What they term the Mahomedans of Kansoo, I am not aware—possibly it may be Dungen or Turgen. The Mahomedans of Kansoo are said to have lately achieved their independence, and occupy that province under a chief named Abdool Jaffir.

"The Manomedans of Yunan are merely a remnant, I should imagine, of the great wave of Mahomedan aggression, which, under Mahomed of Guznee, Mahomed Ghori, and Gengis Khan, overran Persia, India, and a portion of Northern China : their ingress and progress in China, are separately given or accounted for by Chinese and Panthays. The Panthay account is somewhat mythical, and assumes at once the superiority of their race. The Chinese version

deals less in mystery, and is more in bearing with supposed historical facts. They are as follows:—

"*Panthay Version.* Once upon a time, China was subjected to a plague of evil spirits, who desolated the whole country, and in fact put a stop to the regular course of nature. The sun ceased to shew itself, excepting now and then, in obscure and fitful gleams; and the land refused to produce, or yield fruit in due seasson. During this calamitous state of affairs, the Emperor 'dreamed a dream,' in which a form was prominently revealed to him, in the dress of an Arab; but indicating at the same time, every appearance of peace and friendly goodwill. Astrologers and experts in such matters, interpreted the Emperor's dream to signify, that the plague of evil spirits would cease on the appearance of a force of Mahomedan Arabs who were well known to be a source of terror to evil spirits and devils of every description. The Emperor was convinced, and sent a mission direct to the Prophet Mahomed, in which he begged the assistance of a few of the Prophet's followers. Mahomed sent 360 men, who, in due time, reached China. By virtue of their presence, the evil spirits vanished, and the country was restored to its former prosperity. The Arabs were treated with becoming honour, and allowed to settle and establish themselves, in the vicinity of the Royal Capital. But in course of time their numbers increased to such an extent that the Chinese Government became anxious about its own safety; and an arrangement was effected, by which the Arab population near Pekin was broken up, and sent in small parties to the confines of the Empire; where they have since established themselves, more or less firmly, and in some instances proclaimed their independence.

"*Chinese Version.*—About a thousand years ago, there was a great rebellion in China, and the Government was in danger. The reigning Sovereign at the time was Oung-lo-show; and being in tribulation, he sent for assistance to a certain King, named Razzee or Khazee, who ruled over the countries to the West of China. A Mahomedan contingent of 10,000 men was sent, and with their assistance, the rebellion was suppressed, and the services of the contingent dispensed with. But a difficulty now arose, as to the return of the Mahomedans to their own country. They had been greatly reduced in numbers, and their inclination to stay where they were and settle

down in China, was encouraged by reports, which reached them, to the effect that a return to their own country was forbidden, owing to long residence abroad, and their pollution as Mahomedans by contact with swine and other abominations, which were known to abound in China. The remnant of the contingent was finally located in Yunan, and settling down there, became peaceful subjects of the Emperor of China.

"It is to be inferred that the Mahomedan population in Yunan was, for some centuries, at least, loyally disposed towards the Chinese Government; for no particular mention is made of them in Chinese History, as far as is known, after their domestication in Yunan, until the year 1855, when they rebelled and successfully threw off the Chinese yoke.

"The rebellion is stated to have originated and been carried out in this wise. The Panthays in Yunan had multiplied and become a flourishing and distinct community. They preserved their separate nationality and customs, but were nevertheless obedient to the Chinese laws. The Chinese and Tartar officials are said to have been oppressive, and the foreign population was specially marked out for the exercise of more than ordinary severity. Their industrious habits and general aptitude made the Mahomedans profitable subjects; whilst it rendered them, at the same time, victims to unjust and extortionate masters. Then a feeling of enmity and hate was engendered, with the usual results. The Loosonphoo Silver Mines of Yunan were worked by Panthays, under the superintendence of Chinese officers. On a certain day a dispute arose at the mines, and the miners, exasperated by unjust treatment, had recourse to force and murdered every Chinese officer they could find. The revolt of the miners, was at once followed by a general armed rising of the Panthays throughout Yunan. Being far inferior in number to the Chinese, they at first took to the woods and mountain fastnesses, whence they carried on a fierce guerilla warfare. Meeting every where with success, they were soon joined by large numbers of the neighbouring semi-independent hill tribes of Shans, Kakhyens,*

* The Kakhyens above alluded to are a portion of the vast horde of Singphoos, that inhabit the mountainous districts of Northern Assam, and stretch round the north of Burma into Western China. They extend not only all along the Northern Frontier, but dip down Southward wherever the mountain ranges lead them, and nearly as far south as the latitude of Mandalay.

and others, when they soon extended their operations to the plains, and to the siege of large towns; and the local Government, receiving no assistance from Pekin, finally succumbed, the insurgents became supreme, and a separate Panthay Government was established with its Head Quarters at Tali or Talifoo, then only a city of secondary importance, but where the Mahomedan element had always been very strong. Feeble attempts have since been made, from time to time, to recover the lost Province, by the despatch of Imperial Troops from the Capital; but the Chinese Government has never been able to make head against the Panthays; and the troops sent have generally been repulsed, before they could even penetrate within the Yunan frontier.

"The present Mahomedan Government of Yunan is presided over by a military chief styled Sooleman by the Panthays, and Tuwintsen by the Chinese. He has assumed the insignia of Royalty, by formal instalation on the guddee, and by the exclusive, and prerogative use of yellow clothing and appurtenances. This chief or king is assisted by four military and four civil ministers, the principal one of whom is established at Momein, a large town close to the Shan frontier, west of Yunan. There appears to be little departure, in the matter of administration, from the old form of Chinese Government, except, being more military in its character. Taxation is extremely light, being restricted, as far as can be understood, to a moderate assessment on land.

"The Panthays are Mahomedans of the Soonee sect, and pride themselves on their Arab descent: many of them are able to converse in Arabic, and their prayers are all in this language. They have mosques or musjids of the true Moslem type, and are fanatical and strict in their religious performances; as far as I have been able to ascertain, however, there is no trace of any religious zeal, or motive, as the origin or pretext for the present rising of the Panthays against Chinese rule. The Chinese are generally tolerant of all religious persuasions, and unlikely to cause irritation to the Mahomedans by any interference with their religion. The Buddhist, wherever found, is untrammeled by conventional dogma, and far less imbued with the *odium theologicum*, or that contemptuous abhorrence of all creeds and customs other than his own, than is the case with other natives of the east, of

whatever creed or denomination. The dress of the Panthays is in accordance, for the most part, with Chinese habit; though many of them cut their hair to a certain length, and allow it to fall back on the nape of the neck. They also wear, in many instances, a distinctive turban of more ample form than in use amongst Chinese. They are fair, tall, and strongly built men: are an interesting race or community of people: and after twelve years of absolute government in Yunan, it is not improbable that their future independence is secure.

"Panthay traders state that, during the past year, an embassy was received from the Emperor of China, in which the Imperial Government sued for a cessation of hostilities, and volunteered to cede Yunan to the Panthays, provided they would come to terms, and commit no further acts of aggression on neighbouring Provinces. The offer it is said was indignantly refused, and the Embassy was obliged to return to Pekin, without accomplishing its object.

This, if true, bodes evil to our future intercourse with China through Yunan by Railway or otherwise. The trade viâ Bamo between China and upper Burma, amounted in 1854 (the year before the Mahomedan insurrection) to half a million of pounds sterling. No caravans from Sechuen or other Provinces of China, since the establishment of Mahomedan rule, have passed through Yunan; and trade by this route has almost altogether ceased. But with Yunan alone, a large trade was formerly carried on, and it is hoped that the caravan route, at any rate, may be shortly re-opened. It possesses the unusual advantage of having been used for centuries as a line of traffic, and has maintained its vitality hitherto among all the disturbing influences of the flow and ebb of the Chinese and Burmese power, and is a cogent proof of the necessity for interchange of commodities between the respective countries.

"An apparent interminable feud has doubtless arisen between the Manchur dynasty, and the Mahomedan population of China which may, probably combined with other numerous causes, ultimately end disastrously to that dynasty. How long it will take for the Chinese Government to disintegrate and reappear under a new form; what effect such a change would have on the independent Mahomedan population of the Western Provinces; and whether the change will be brought about by them, are questions which may probably affect a future generation,

but are nevertheless full of interest to neighbouring Governments, and political speculators of the present day."

On the proposition of the President, the special thanks of the meeting were voted to Col. Fytche.

Major Lees exhibited a bronze hookah which had been dug up on his plantation in Cachar, and was very different from anything now used in the province, while in point of manufacture it is far superior to any now manufactured there.

He also read a letter from Messrs. Johnson and Drew of Cashmere, in which the writers announce the proposed establishment of an Himalayan Club for collecting, interchanging and publishing scientific and general information concerning the Himalayan range.

The President undertook to refer the letter to council.

Library.

The following additions were made to the Library since the last meeting in November.

*** The names of Donors in capitals.

Presentations.

Progress Report of Forest Administration in the Central Provinces, 1866-67.—The Government of India.

La Gurlande Précieuse des demandes et des Réponses Publíce en Sanskrit et en Tileekan et Traduite Pour La Premiere Fois en Français by Ph. Ed. Foucaux.—The Translator.

Journal Asiatique, Tome IX.—The Asiatic Society of Paris.

Professional Papers on Indian Engineering, No. 17.—The Editor.

Sitzungsberichte der Königlich Bayerischen Akademie der Wissenschaften Zu München, 1866 II. Heft II. III. and 1867 I. Heft I—IV.—The Royal Academy of Sciences of Munich.

Abhandlungen der Mathe—Physikn. classe der Königlich Bayerischen Akademie der Wissenschaften Band XXXVII. Abth. I.—The Royal Academy of Sciences of Munich.

Abhandlungen der Histor. classe der Königlich Bayerischen Akademie der Wissenschaften, Band XXXV. Abth. II.—The Royal Academy of Sciences of Munich.

On the relations of Tanalia Philopotanus and Paludomus with a

review of the Cingalese species of the latter genera by H. F. Blanford, Esq. F. G. S.—The Author.

Ueber die Brauchbarkeit der in verschiedenen europäischen Staaten veröffentlichten Resultate des Recrutirungs-Geschäftes zur Beurtheilung des Entwicklungs-und Gesundheits-Zustandes ihrer Bevölkerungen von Dr. Th. L. W. Bischoff.—The Author.

Latáifo-'l-ma'árif auctore Abu Mançur Abdolmalik ibn Mahommed ibn Isma'il at Tha'álibi quem librum E Codd. Leyd. et Goth-Edidit P. De. Joug.—The Editor.

Zeitschrift der Deutschen morgenländischen Geselchaft: herausgegeben von den Geschäftsführern, Band XXI. Heft III.—Professor Dr. L. Krehl.

Indische Studien X.—The Editor.

Journal of the Royal Geological Society of Ireland, Vol. I. pt. 3.—The Society.

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Report of Native Papers for the week ending the 9th November, 1867.—Babu Rajendralala Mitra.

Rahasya Sandarbha, Vol. IV. pt. 43.—Babu Rajendralala Mitra.

Purchased.

A Treatise on Natural Philosophy by Thomson and Tait, Vol. I.

The Journal of Sacred Literature, October, 1867.

The Annals and Magazine of Natural History, October, 1867.

Revue des Deux Mondes 15th September, 1867.

Revue it Magasin de Zoologie, November, 1867.

Deutsches Wörterbuch V—7 Comptes Rendus, Nos. 10, 11, 12.